THE BRITISH PTERIDOLOGICAL SOCIETY

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The BRITISH PTERIDOLOGICAL SOCIETY was founded in 1891 and today continues as a focus for fern enthusiasts. It provides a wide range of information about ferns through the medium of its publications and other literature. It also organises formal talks, informal discussions, field meetings, garden visits, plant exchanges, a spore exchange scheme and fern book sales. The Society has a wide membership which includes gardeners, nurserymen and botanists, both amateur and professional. The Society's journals, the *Fern Gazette, Pteridologist* and *Bulletin,* are published annually. The *Fern Gazette* publishes matter chiefly of specialist interest on international pteridology, the *Pteridologist,* topics of more general appeal, and the *Bulletin,* Society business and meetings reports. **WWW site:** http://www.nhm.ac.uk/hosted_sites/bps/

Membership is open to all interested in ferns and fern-allies. **SUBSCRIPTION RATES** (due on 1st January each year) are Full Personal Members £15, Personal Members not receiving the *Fern Gazette* £12, Student Members £9, Subscribing Institutions £25. Family membership in any category is an additional £2. Applications for membership should be sent to the Membership Secretary (address above) from whom further details can be obtained. (Remittances made in currencies other than Sterling are £5 extra to cover bank conversion charges.) **Airmail** postage for all journals is an extra £4, or for those not receiving the *Fern Gazette* £2.50. **Standing Order** forms are available from the Membership Secretary.

(**Front cover**: *Leptopteris superba*, Prince of Wales Feathers. Illustration from: J. Birkenhead (1892) *Ferns and Fern Culture.*)

Back numbers of the *Fern Gazette, Pteridologist* and *Bulletin* are available for purchase from P.J. Acock, 13 Star Lane, St Mary Cray, Kent BR5 3LJ, from whom further details can be obtained.

THE

BULLETIN

OF THE

BRITISH PTERIDOLOGICAL SOCIETY

Vol. 5 1998 No. 3

HRH The Prince of Wales
Patron of the
British Pteridological Society

We are delighted to announce that His Royal Highness The Prince of Wales has agreed to become the British Pteridological Society's first Patron.

His Royal Highness has demonstrated a great love for ferns in his wonderful garden at Highgrove where ferns are cultivated with great success in some remarkable settings. Most notable are the stumpery, or Temple Grove, and Wall of Gifts. Both are fine examples of innovative garden design, using ferns as the main plantings. Both cultivated and wild ferns feature strongly in other areas of the Highgrove garden.

The Society is thrilled to have such a high profile Patron who is sure to increase public awareness of the Society, thus helping to promote fern study, cultivation and conservation. We hope that, for his part, The Prince of Wales will benefit from the services and advice provided by the Society.

Martin Rickard
President

MISSOURI BOTANICAL

FEB 2 1999

GARDEN LIBRARY

BUCKINGHAM PALACE RECEPTION

Although not really a ferny note, it may interest members to know that because HRH The Prince of Wales is the Society's Patron the Society received an invitation to a reception at Buckingham Palace. After discussion with several senior Society officers it was decided that I, as President, should be the lucky recipient of the invitation. In due course it arrived.

"The Master of the Household has received Her Majesty's command to invite Martin Rickard to a Reception to be given at Buckingham Palace by the Queen and The Duke of Edinburgh … to celebrate the public works of His Royal Highness The Prince of Wales on the occasion of his Royal Highness's 50th birthday."

Needless to say, I was thrilled to have the chance to attend such a high profile reception and to have the pleasure of seeing inside Buckingham Palace.

The party took place an Friday the thirteenth of November; it was not an unlucky day! The whole evening was magical. Walking through the front arch of the Palace into the huge courtyard at 5.30 p.m., we could see the many entertainers and coloured lights in the main entrance. Once inside it was up a short flight of steps into the Grand Hall where the Royal College of Music Choir sang a full programme of appropriate songs. Inevitably there was more! Turning left and up the incredible red carpeted, dead straight, main stairway with numerous landings to the first floor, we were greeted by the Royal College of Music Harp Sextet. From here we were allowed to wander at will through numerous magnificent rooms, in most of which there was some entertainment laid on, all of the highest quality. It was really all too much to take in!

In all, I believe there were about 800 guests, and of course, as my name badge revealed, I was there as representative of The British Pteridological Society. Eight hundred guests may seem quite a lot but when you examine the Prince's involvement with so many groups it must have been difficult to limit the numbers. Quite appropriately, The Prince's Trust was strongly represented, as were Welsh and Cornish organisations, conservation groups, military personnel, big business, Palace staff, politicians and show business and sporting personalities, etc., etc. There was plenty of opportunity to chat and I hope a few people learnt what pteridological meant that evening! Of course many of the guests were high profile – the guest list included many members of the Royal Family, four Prime Ministers, leaders of all the main political parties and about 30 Members of Parliament, including most of the Cabinet. Other familiar names might be Joan Armatrading, Rowan Atkinson, Rory Bremner, Frank Bruno, Phil Collins, Dion Dublin, Ben Elton, Dawn French, Stephen Fry, Susan Hampshire, Lenny Henry, Penelope Keith, Ben Kingsley, Joanna Lumley, Spike Milligan, Vanessa Redgrave and Sir James Savile. Quite a gathering! I was particularly pleased to see Lady Susana Walton, the widow of William Walton, one of my fern growing contacts from Italy.

Towards the end of the evening it was a privilege to witness the delightful exchanges between The Prince and The Queen in the Palace's ballroom. It was poignant for me to think that a few years earlier our first and only President Emeritus, Jimmy Dyce, had been in the same room for his investiture as a Member of the British Empire for his services to our Society.

My appreciation goes out to all involved with the organisation of this wonderful evening, but particularly my special thanks goes to Her Majesty The Queen for including a representative of The British Pteridological Society on the guest list.

Martin Rickard

NATIONAL FIELD MEETINGS 1998

HASTINGS, EAST SUSSEX – 23-25 May

Saturday 23 May **Steve Munyard**

Members and guests assembled at Fairlight Lodge Hotel before driving the twenty miles north to Sissinghurst Castle Gardens (National Trust) (51/8038). Here we were able to observe many British and foreign ferns growing amongst the spring flowers in the garden created by Vita Sackville-West.

Having spent the morning in the gardens we drove to The Oak and Ivy public house at Hawkhurst for lunch. Suitably refreshed, the group travelled to Winchelsea (51/904173) to inspect the walls of St Thomas the Martyr Church and other walls around the village. This is one of the few East Sussex sites for *Asplenium ceterach* and *Polypodium cambricum*. Also seen were *Asplenium trichomanes* subsp. *quadrivalens, A. scolopendrium, A. adiantum-nigrum* and *A. ruta-muraria*.

We then made our way to Mark Border's house, stopping briefly at a roadside verge in Guestling (51/850148) to view a colony of *Ophioglossum vulgatum* which extends for about fifty yards. Bob Finch from Cambridge, a former Hastings resident, had known this site for more than twenty years. Upon arrival at Mark's home we were treated to a tour of his garden which contains many unusual and interesting ferns and other plants. There was also a display of fossils, including ferns, some of which we hoped to find examples of the next day. Mark and his family laid on a superb spread of food to provide us with energy for the next part of this full day.

It was intended that we should then visit a number of sites around Hastings by car. Unfortunately we lost half the party in the bank holiday traffic but some of us were able to see *Asplenium adiantum-nigrum, A. scolopendrium, A. trichomanes, Polypodium interjectum, Athyrium filix-femina* and *Dryopteris affinis* growing in the walls of Christ Church in St Leonards (51/802093). We continued to Old Roar Gill (51/804117) and saw, among other ferns, luxuriant plants of *Asplenium scolopendrium* (including crested forms), *Blechnum spicant, Polystichum setiferum, Dryopteris affinis* subsp. *borreri* and *Equisetum telmateia* growing in the damp shady conditions at the site.

This completed a well organised day for which we all owe Mark our thanks.

Sunday 24 May **Paul Ripley**

Jennifer Ide joined us for our first visit of the day – Powdermill Wood, near Battle (51/735144). This acid sandstone wood comprises a drier upper part and a lower stream bed, dammed at one point to create a lake and a rich wetland marshy habitat. In the drier areas *Blechnum spicant, Dryopteris dilatata* and *Pteridium aquilinum* were abundant, as was *Athyrium filix-femina* in the wetter places. In the damper areas *D. carthusiana* was common, together with probable examples of its hybrid with *D. dilatata, D.* x *deweveri*. As the wood was explored and we 'got our eye in', frequent examples of *D.* x *deweveri* were seen, including stands containing numerous large plants without either parent and in situations that would be regarded as too dry for *D. carthusiana*. These plants were characteristically large and erect, with frond and scale characters clearly intermediate. *Polypodium interjectum* was occasionally found, and a single large *Polystichum setiferum* in an area where some landscaping was in progress. Several more plants of the latter were seen here during a reconnaissance visit the previous autumn. *Dryopteris filix-mas* was not uncommon, likewise *Dryopteris affinis*. *D. affinis borreri* was the commonest morphotype, but a few distinctive

examples of morphotype *affinis* were also seen. A characteristic foliose form with almost spathulate pinnules is frequently present in Sussex woods and was seen in this one. It is never abundant and always occurs as sporadic plants, rather than colonies. Is this *paleaceolobata*?

After lunch we were joined by about ten members of the Hastings and District Geological Society (and by Peter Clare and his family). This proved to be a richly rewarding joint visit. The Geological Society have made a detailed study of the early Cretaceous fossil beds for which Hastings is famous. One member has published many articles and had produced a beautifully illustrated hand-out with meticulously accurate drawings of fossil ferns and fern allies found in this area. Along the beach at Pett Level the constant movement of the sea exposes new strata in the soft rocks after every tide. We were rewarded by seeing specimens of quillworts presented *in situ* with the original line of the lake floor clearly visible. *Equisetum lyellii* imprints were abundant, and although members did not find fossilised tree-fern trunks, the Geological Society had brought a barrow-load of examples with them!

On returning to the Royal Military Canal, Patrick was pleased to find *Equisetum telmateia* and *E. arvense*, as well as the very local bur chervil.

We went on to Steven and Karen Munyard's house in Hastings where a barbecue and a superb tea had been prepared. Of course we were also able to see the garden. I never fail to be amazed at Steven's greenhouses, where semi-tropical ferns cohabit with frogs and toads, and where fine fern specimens fit the terrain perfectly. I fear we stayed too long enjoying Steven and Karen's generous hospitality and wonderful food, but we were rewarded by seeing the badgers which had come as usual for their nightly feed.

Monday 25 May **Patrick Acock**

Our first port of call was a whistle-stop on the Hastings seafront (51/090808) to see a long established alien in the wall cracks of two basement flats. Since at least 1972 *Cyrtomium falcatum* has occupied this site close to the sea (Hall, 1980) and a few mature and immature plants were recorded.

We proceeded to Mark Border's mother's house in New Cut, Westfield (51/157810). Mrs Border has established a magnificent garden of plants surrounding the bungalow. Mark has of course contributed many ferns including planting a couple of fern borders. Many plants that Mark finds difficult to grow to maturity in his own soil race away here. We were grateful to Mrs Border for tea and cake and for opening her home to us.

At a crossroads a short drive away (51/156799) we were enclosed in the most beautiful Sussex hedgerows, themselves enclosing lovely meadows of flowers. In a deep cutting we saw many strongly growing common ferns including *Dryopteris filix-mas*, *D. dilatata, D. affinis* subsp. *borreri, Athyrium filix-femina* and *Blechnum spicant*. Of special interest in another arm of the crossroads was a large polypod which could have been *Polypodium* x *mantoniae*; a small fragment is being grown on to seek confirmation. Six *Carex* species including *Carex hirta* were observed in the damp part of the lane.

After lunching at a pub west of Battle and bidding farewell to a few of our party we moved on to Rocks Wood (51/577335) south of Frant to look at *Dryopteris aemula* and *Hymenophyllum tunbrigense*. We were disappointed to see how dry the area had become and although the *D. aemula* was present in good numbers it was inundated with bracken. The filmy fern was not thriving in these conditions and looks doomed unless the canopy restores itself soon or the humidity level rises. The interesting boggy area

still has a thriving community of ferns including *Dryopteris dilatata, D. carthusiana, D. affinis* subsp. *borreri, Athyrium filix-femina* and *Oreopteris limbosperma. Dryopteris* x *complexa* and *D.* x *deweveri* might occur but were not found on this occasion (see Ripley 1984).

The final stop of the day was at Eridge Rocks (51/557356) where *Hymenophyllum tunbrigense* was again observed but in a more healthy state here, although a fraction of one mat was worryingly found on the ground, possibly dislodged by a passing animal.

Our thanks go to Paul Ripley, Mark and Rosemary Border and Steve and Karen Munyard who not only put together a very interesting and diverse weekend but wined and dined us to the point of exhaustion.

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Hall, P.C. (1980) *Sussex Plant Atlas* p. 34.
Ripley, P.H. (1984) *The British Pteridological Society Bulletin* **3**: 11-12.

LLANWRTYD WELLS, POWYS – 31 July - 2 August B. Porter & P.J. Acock

Friday 31 July. Craig Cerrig-gleisiad a Fan Frynych. During the day two of us visited Craig Cerrig-gleisiad NNR (22/971222). We recorded *Oreopteris limbosperma, Asplenium trichomanes-ramosum (A. viride), A. trichomanes, Equisetum palustre* and ten other species. In the early evening while the later comers were having something to eat, six of us, led by Ray Woods, went for a walk out of town alongside the river and back down the other side.

The hedgerows were full of ferns, mostly *Dryopteris filix-mas* but amongst the male ferns we also found *D. oreades*. It was flourishing quite happily and after much discussion about glands and pale stems and scales, the consensus was that it really was *D. oreades*. We also found *Athyrium filix-femina*, both the green- and red-stemmed varieties. There was *Polypodium interjectum* on an old wall and *P. vulgare* growing on a tree. Patrick tried to climb up to it, but even he couldn't quite reach it, so we had to decide on its identity from ground level.

Along the road there were a couple of tattered buildings, one of them containing a hydrogen sulphide well and near here an anomaly in *Dryopteris filix-mas* caused yet more discussion. It concerned the indusia; some were much flatter than others which stood out quite prominently in a sort of truncated kidney-shaped cone. Also, some plants were nowhere near ripe while others were shedding spores. Near here there was *D. affinis* subsp. *affinis*. We also found *Pteridium aquilinum* as we got further out into the country. We crossed the river and came back down another lane. Finally, when it was nearly dark, we found an *Asplenium scolopendrium* on a wall just over the bridge on our way back to the hostel.

Saturday 1 August. Cwm Dyfnant Ravine. We started by exploring the bottom of the ravine (22/9042). Along the roadside there was *Equisetum telmateia* and while scrambling across the river we found *E. arvense*. We visited the flat marshy area just off the road at the bottom of the wooded slopes. There were many scattered clumps of *Dryopteris carthusiana, D. dilatata* and *Athyrium filix-femina* and just where the land began to rise we found both *Dryopteris affinis* subsp. *affinis* and subsp. *borreri*. There was much interest and excitement when we managed to distinguish *D.* x *deweveri (carthusiana* x *dilatata)*. Someone found *Equisetum palustre* and a very branched *E. fluviatile*. We found several *E. palustre* with cones on all the upper branches as if it

was var. *polystachyum*, but we thought it could be a strategy on the part of the plant to produce spores, as in each case the main central cone had been damaged.

On our way round to the top of the ravine, we were escorted on to Cillieni Marsh (22/8838), MoD land, by a civilian employee of the army in a jeep. He looks after the wildlife in the firing range. We trampled over what seemed to be miles of *Molinia* swamp, trying to pick our way through slippery clumps of grass and not slide into deep wet holes too much. We finally reached the clump of trees which was our objective and among the *Dryopteris carthusiana* found *Thelypteris palustris*, the marsh fern. Unfortunately there were no fertile stems.

photo: A. Leonard

Cillieni Marsh, Powys.

Sitting on tank: Ray Woods, Mike Wagstaff, Howard Matthews, Robert Sykes, Pat Acock, Lesley Williams, Jonathan Crowe, Graham Ackers.

Standing: Christine Mullins, Jennifer Ide, Barbara Porter, Doreen Holly, MoD escort, Keith Holly.

A steep descent into Cwm Dyfnant Ravine (22/9142), courageously tackled by most of the party, rewarded the most adventurous with *Hymenophyllum wilsonii* close to the bottom. Upon their return they discovered that persistence had rewarded the rest of the party with the same species much nearer the top. Also in the base-rich shale outcrops, *Cystopteris fragilis* and *Polystichum aculeatum* occurred in some abundance.

In the later afternoon, with rain threatening, a somewhat depleted party visited Nant Irfon NNR in the valley above Abergwesyn (22/8454). The abundance of tussocky *Molinia* grass and steep terrain persuaded others to stick to the rocky ravine beside the River Irfon where *Oreopteris limbosperma* occurred in abundance together with smaller quantities of *Phegopteris connectilis*. As river levels were high, access for the intrepid few was gained to the actual reserve by a natural rock arch over the river. A slog through dense vegetation with a major uphill component brought the party to the

narrow, rocky defile of the Nant Hir. A large population of *P. connectilis* was seen beside an impressive waterfall with a few clumps of *Huperzia selago* but no other outstanding finds. Exceptionally heavy rain on the return trip persuaded members to ford the river rather than face the rock arch since remaining dry had ceased to be a consideration. The scenery undoubtedly outshone the ferns at this site.

Sunday 2 August. Allt Rhyd y Groes (22/7846) is a National Nature Reserve. It consists of a dramatic deep valley where a hanging sessile oak wood grows along two miles or so of the river. Along the riverside are a series of herb rich meadows where the damp conditions are ideal for ferns. We stayed here all day and lunched in one of the meadows, borrowing each others' insect repellent.

Most of us kept to the path where there was plenty of *Pteridium aquilinum* as sometimes the tree canopy was thin and open. There was also *Dryopteris filix-mas* and *Athyrium filix-femina.* On an old farmhouse just before we got to the reserve itself, we found *Polypodium vulgare* and *Asplenium trichomanes* subsp. *quadrivalens* on the wall. We also found *Dryopteris dilatata* and *D. affinis* subspp. *affinis* and *borreri* in the reserve itself.

Martin Rickard and Andrew Leonard went exploring up a steep slope where a stream ran down and found *Hymenophyllum wilsonii* and then Jonathan Crowe found it on a big rock not a yard from the path with *Phegopteris connectilis*. Towards the end of the reserve *Cryptogramma crispa* and *Huperzia selago* were discovered.

photo: J.M. Ide

Ray Woods, Jonathan Crowe, Mike Wagstaff and Howard Matthews *(background)* discussing and photographing *Cryptogramma crispa* at Allt Rhyd y Groes, mid Wales.

The meeting was well attended both days and we would all like to thank Ray Woods for organising such an interesting weekend and introducing us to his most beautiful 'patch'. He's doing a heroic job in these valleys to keep conservation alive, keeping the forestry people from planting conifers in every conceivable corner and making sure that biologically sensitive areas are kept free from invasive roads, sheep and farmers, so we are doubly thankful that he took time off to arrange it all for us and to accompany us as well.

SOUTH LAKE DISTRICT, CUMBRIA – 10-13 September

Thursday 10 September — Barbara Porter

The first visit of this long weekend was to the western shore of Thirlmere along a narrow road which ran along the lakeside through deciduous woodland rising steeply to the heights above. In some places along the road were old walls, in others steep banks, and down the hillsides ran many fast, tumbling and tumultuous streams to join the lake. It rained!! Ferns were everywhere and they loved it. We took an hour and a half at least to walk a mile down the road, there were so many ferns. As soon as we got out of the car park (35/305170) there were banks of ferns facing us, including *Dryopteris filix-mas, D. oreades* with its paler scales, and possibly the hybrid between the two, *D.* x *mantoniae*. There were two *D. affinis* subspecies – *affinis* and *borreri*, also *D. dilatata*, and just to vary the *Dryopteris* theme, there were *Athyrium filix-femina*, *Oreopteris limbosperma* and *Pteridium aquilinum.*

Further along the road we came across *Asplenium ceterach* in a mortared wall and ten yards further along there began a stretch of many plants of *Cryptogramma crispa*. On the other side of the road on the wall were *Polypodium vulgare* and *Asplenium trichomanes* subsp. *quadrivalens*. Through a stile about a mile southwards along the road from the car park, a path led steeply upwards by the side of a tumbling stream full of water. It was wet and slippery but at the sides of the path were many patches of *Gymnocarpium dryopteris* and *Phegopteris connectilis*. Also higher up there were *Huperzia selago* and *Dryopteris expansa*; the latter was verified by microscope in the hotel on Friday evening.

After lunch at a local pub we paid a visit to Sizergh Castle gardens (34/497879) – a National Trust garden, one of the few that is predominantly a haven for ferns. There were many native species of *Dryopteris, Polystichum, Adiantum, Polypodium, Osmunda*, etc., but also many rare varieties and many hardy foreign species. Among our native ones there was the loveliest and most intensely undulating *Osmunda regalis* 'Undulatifolia'. There were many crested, crisped and waved *Asplenium scolopendrium*, many crested and divided polypodies, *Polystichum setiferum* in all sorts of 'Divisilobum' forms, and others. Many foreign *Dryopteris* such as *D. erythrosora* grew there too.

The garden itself is gradually, section by section, being dug over, weeded, and replanted with the original species. (The rock garden is in this process right now.) Malcolm Hutcheson, the Head Gardener, has just one assistant and a few volunteer helpers to look after a large, complex and intricate garden, nursery beds, greenhouses and a large garden frame dedicated to the development of new ferns.

Sizergh Castle seems to be the only specialist fern garden run by the National Trust and we all hope that they will continue to nurture and sustain this interest. This is a rare and beautiful place.

Friday 11 September — Graham Ackers

With the weather prospects better than the almost continuous rain of the previous day, we set off in loose convoy for the hour-long trip to Eskdale, via the scenic Ulpha and Birker Fell route. The walls and bridge in the vicinity of our first car park (35/128038) harboured *Polypodium vulgare, Asplenium trichomanes* and particularly fine clumps of *A. ruta-muraria*. This species community became a frequent sight in other similar habitats during the field meeting. Following a short walk across a rough meadow, Flass Tarn was reached, with its dominant central vegetation of *Juncus* species. The pteridological interest was provided by some fine, bright green, tangled mats of

Pilularia globulifera occupying the perimeter muddy shallows. After much admiration and flashing of cameras, it was left to one or two of us to wonder why a similar body of water close by had no sign of *Pilularia*.

photo: A. Leonard

Members looking at *Pilularia* at Flass Tarn.

The starting point for our second site of the day was the small village of Eskdale Green (35/142002). Our walk took us along a dark, gloomy track lined with woodland to our left. The ferns dominating the track sides were *Athyrium filix-femina, Dryopteris affinis* subsp. *affinis* and *D. dilatata*. Characteristic and luxurious growths of *Polypodium vulgare* adorned the wall tops. As the track emerged into the open, the ferns lining our route changed, with *Blechnum spicant, Dryopteris affinis* subsp. *cambrensis, Oreopteris limbosperma* and *Pteridium aquilinum* being most noticeable. The track led to our intended site, Miterdale Wood, where, crossing a stream, we immediately came across several lovely clumps of *Osmunda regalis*. As their rhizomes were of comparatively modest proportions for this species, it is possible these specimens were fairly young, with frond lengths of about one metre. The wood was very boggy in places, the woodland floor being dominated by carpets of *Sphagnum* moss. Other fern species were widely scattered, with small specimens of *Dryopteris dilatata* being dominant, often clustered around tree bases and thus avoiding the wettest substrates. Plants of *D. carthusiana* were also present, as possibly were *D.* x *deweveri* (unsurprisingly, some identification doubts lingered!). Perhaps surprisingly, bracken was also present, seemingly happily emerging from the boggy conditions – is there anywhere this plant will not grow?! Occasional specimens of *Athyrium filix-femina* and the ubiquitous *Oreopteris limbosperma* were seen. *Blechnum spicant* occupied a characteristic niche on the somewhat drier banks surrounding the bog. This was a lovely area of woodland, enhanced by the bubbling River Mite, along the bank of which was noticed a stand of *Phegopteris connectilis*. But taken together, the 'stars' of the wood were the royal ferns.

Our next site was an even finer area of woodland, Milkingstead Wood (34/153996). Our route into the wood was lined with *Dryopteris dilatata, Oreopteris limbosperma* and *Phegopteris connectilis*. On entering the wood itself, we proceeded to inspect the face of a large crag on which was a good stand of *Hymenophyllum wilsonii*. A short walk took us to another crag harbouring *H. tunbrigense*. This was an excellent opportunity to study the field characters that serve to differentiate these two filmy fern species, in particular frond shape and the extent to which the fronds are pressed to the substrate. The party then scattered to explore the wood and its many crags, when further isolated patches of both species were found, doing battle with the abundant

mosses. Both the crags and the woodland floor were dominated by mosses of many species, providing a wonderful, verdant tapestry clothing the whole wood. The trees were mainly oak and silver birch, with all tree species being distributed according to their preferences for wetter or drier ground. Once again, *Dryopteris dilatata* was common, some *Oreopteris limbosperma* was observed and *Blechnum spicant* occupied bank sites. Some time ago, Francis Rose reported a number of plants of *Dryopteris aemula* in this wood, unfound in searches conducted in recent years. However, with the agility of a mountain goat, our intrepid fern hunter Patrick Acock traversed and combed the whole area, finally encountering three specimens of – *Dryopteris aemula*! Various whoops and cries of delight followed, whereupon the rest of the party entered into a love/hate relationship with the finder!

A short drive took us from an evocative wood to an even more evocative gorge. The beautiful trail took us along the west side of Stanley Ghyll (34/174997), the sides of which became increasingly narrower and steeper. Eventually, we arrived at a series of bridges crossing the ghyll, which at this point was flowing through a verdant and humid gorge, reminiscent in many ways of similar gorges in Madeira. The fern flora was equally luxuriant, with curtained stands of *Athyrium filix-femina, Dryopteris affinis* subsp. *cambrensis* and *D. dilatata. Hymenophyllum wilsonii* clothed many of the rocks and *Blechnum spicant* and *Phegopteris connectilis* the banks. Also observed in less steep areas were *Gymnocarpium dryopteris, Oreopteris limbosperma* and *Dryopteris filix-mas* (generally uncommon in such humid locations). Some of the *Dryopteris* species showed evidence of deer grazing and significant areas of the gorge had been invaded by inaccessible plants of *Rhododendron ponticum*. However, the *pièce de résistance* was the magnificent waterfall (Stanley Force) at the end of the path, a fine view of which was available from a platform outcrop.

A splendid day's ferning was completed by the highly scenic and slightly awesome return drive via the Hardknott and Wrynose Passes, and an evening microscope session courtesy of Barry Wright to observe some of the finer ferny structures.

Saturday 12 September **Jonathan Crowe**

While members of the committee were holding their meeting, the remaining Society members visited Brantwood House (34/312958), former home of W.J. Linton and subsequently Ruskin.

The gardens are being restored to the ideals established by Ruskin in a most sensitive and imaginative way; the fern collection complements his landscape philosophy of using the natural materials to hand. Sally Beamish, the Head Gardener, took us on a fascinating guided tour of the work being done, explaining Ruskin's design for the garden and the way it is now being restored in sympathy with the plant habitats and the romantic symbolism of the structure created by Ruskin.

Of particular interest to members was the Fern Garden. This has been laid out in three ascending terraces under a tree canopy, the lowest terrace devoted to ferns native to Coniston, followed on the next terrace by cultivars or forms of the fern species originally found in the Coniston area (with a 'normal' example of each species for comparison), and finally on the top terrace examples of ferns found elsewhere throughout the county. The stimulus for this collection was primarily taken from *The Ferns of the English Lake Country*, an exquisite early fern Flora of the county researched, written and illustrated at Brantwood by W.J. Linton in 1865. The garden tour offered magnificent views of the lake and crags beyond, made all the more beautiful by the clear sunlight which followed an early morning of rain and thunder.

After the AGM a group of enthusiasts led by Marjorie and Jack Garstang set out in torrential rain for a brief walk around the environs of Coniston. They were well rewarded; the waterfalls in Coppermines Valley were spectacular after the downpour, the clouds cleared away to give superb views of the fells, and a wide range of ferns was seen. Walls in the village held *Asplenium ceterach, A. ruta-muraria* and *A. trichomanes* subsp. *quadrivalens* and there was a fine plant of *Osmunda regalis* in a cottage garden. On the way up to the Coppermines Valley *Asplenium adiantum-nigrum, Polypodium vulgare* and *P. interjectum* were seen on trackside walls while *Cryptogramma crispa* and *Oreopteris limbosperma* were everywhere. Near the waterfalls (34/294980) *Polystichum aculeatum* and *Asplenium scolopendrium* were noted, while in woods just above Coniston, there was a good selection of *Dryopteris*, including *D. affinis* subspp. *affinis* and *borreri*. On the final half-mile to the hotel some fine twelve-inch fronds of *Asplenium trichomanes* subsp. *quadrivalens* were seen on garden walls and nearby were some crested forms of *Athyrium filix-femina*.

photo: courtesy A.C. Wardlaw

Martin Rickard, Eric Baker and Alastair Wardlaw after dinner following AGM at Coniston.

Sunday 13 September **Neil Timm**

On a clear bright morning Jack and Marjorie Garstang led a group of twenty-nine members to the nature reserve at Hay Bridge (34/336876). Here we first visited a marshland habitat with a thin cover of small, scattered birch trees which is, we were told, subject to tidal flooding. Here the main point of interest was to be *Osmunda regalis*, and we were pleased to see many large clumps, plus a number of smaller plants which seemed to indicate that it was actively regenerating. Some members were unfortunately forced to view them from a distance due to the extreme wetness of the site, which also yielded *Dryopteris carthusiana, D. dilatata, D. filix-mas, Athyrium filix-femina* and *Pteridium aquilinum*. We then walked a short distance to the woodland part of this reserve where the same group of ferns (except *Osmunda*) were to be seen, together with *Dryopteris affinis* subspp. *affinis* and *borreri, Oreopteris limbosperma* and a good stand of *Phegopteris connectilis. Polypodium vulgare* and *Blechnum spicant* were seen on the roadsides back to the car park. The interest of this site was further raised by a display of artefacts belonging to traditional woodland craftsmen, including a kiln used in the burning of bracken in order to produce potash for the soap industry in a process described to us by Jack Garstang.

We then drove, now under the leadership of Mike Porter, the short distance to Roudsea Wood (34/330827), an old favourite with the BPS. Here we saw the newly rediscovered *Thelypteris palustris* which we found to be spread over quite a large area. Here also were *Athyrium filix-femina, Dryopteris affinis* subsp. *borreri, D. carthusiana, D. dilatata, D. filix-mas, Equisetum arvense, E. palustre, Phegopteris connectilis,*

photo: A. Leonard

Matt Busby beside large clump of *Osmunda regalis* at Hay Bridge.

Polypodium vulgare and *Pteridium aquilinum*. The rocks in the reserve gave us a small but choice selection of spleenworts, namely *Asplenium trichomanes* subsp. *quadrivalens, A. scolopendrium* and *A. adiantum-nigrum*. There was not, unfortunately, time to see the *Osmunda*.

After a lunch well organised in advance by Mike, a smaller number of members drove to Hutton Roof (34/552788) to look at the limestone pavements. Here we saw *Asplenium ruta-muraria, A. trichomanes* subsp. *quadrivalens, Dryopteris affinis* subsp. *borreri, D. dilatata, Gymnocarpium robertianum, Phegopteris connectilis, Asplenium scolopendrium, Polypodium interjectum, Polystichum aculeatum* and *Pteridium aquilinum. Asplenium trichomanes-ramosum (A. viride)* was also found but only after a long search and much climbing over rocks which meant that some members were not able to see it. Nearly all, however, were able to see *Dryopteris submontana* and its main features were explained for the benefit of those not familiar with this plant.

Finally, members wandered back to their transport, enjoying the good views which the clear but windy day provided from the crest of the hill. We thanked our leader for such an enjoyable and smooth-running visit, and then as a bonus *Cystopteris fragilis* was found growing at the foot of a wall by the parking place, giving us a total of twenty-five species for an excellent and rewarding day.

photo: A. Leonard

Barry Wright and Mike Porter on limestone pavement at Hutton Roof.

LECTURE MEETINGS AND DAY VISITS 1998

SPRING INDOOR MEETING, CHELSEA PHYSIC GARDEN, LONDON – 7 March

"My Life as a Pteridologist"

It is always a pleasure for the Society to meet at the Chelsea Physic Garden, with its good facilities and fine gardens. These were looking particularly vibrant (and tidy!) after a mild winter. Saving the main theme of the meeting until the afternoon, the morning was dedicated to members' slides. These sessions are always a risk, as one never knows whether anyone is actually going to turn up with any slides! Such fears were soon dispelled by some very interesting presentations.

Graham Ackers started with a few slides of ferns of Long Island, New York, with particular emphasis on those liking to get their feet wet. Jennifer Ide, recently returned from New Zealand, presented pictures which were taken mainly from a single foray in the Dunedin area. As there had been considerable wind, Jennifer's tripod could not be deployed, and so the photographs were taken using flash. New Zealand is relatively rich in ferns, and we were treated to fine pictures of species of *Blechnum* (several), *Lycopodium*, *Polystichum*, *Cyathea*, *Hymenophyllum*, *Leptopteris*, *Tmesipteris* and *Asplenium*. Rob Cooke followed with a few slides from La Gomera, requesting assistance with identification of the ferns. The New Zealand theme resumed with more fine slides from Christine Mullins. Johannes Vogel then presented a fascinating tutorial on the European species of *Diphasiastrum* and their hybrids. Owing to their variability, it is possible to view this group on a continuum, and one school of thought maintains that they could all be the same species. *Diphasiastrum* spp. (or sp.!) are very attractive, and most photogenic, as Johannes' beautiful slides showed. The final show of the morning was presented by Peter Richardson, whose theme was the Gleicheniaceae. Many of the slides shown were of *Gleichenia* and *Dicranopteris* species from around the world. Peter pointed our their preference for bare but undisturbed soil, and how in their tropical locations they behave ecologically rather like bracken in the British Isles. A fascinating account was given also of the unusual branching morphology of their fronds.

There never seems to be sufficient time on these occasions to do justice to the gardens and greenhouses. The main impression of my own whistle-stop tour was of the fine collection of Macaronesian ferns, housed in considerably more opulence than my own collection from the same region!

During the afternoon, five BPS member pteridologists gave personalised accounts of their careers. Chris Page started the afternoon by relating his birth during a bombing raid, perhaps resulting in his later developed determination to succeed at whatever he set his mind upon. Early interests in natural history emerged in the form of fossil hunting, and the evocative recollection as a young child of wading through a 'forest' of horsetails to reach a small bay by the sea. At university, he had the good fortune to benefit from the tutorship of Trevor Walker, and they became kindred spirits. He also had the encouragement of Clive Jermy. Chris identified six ways in which he had set about his study of ferns – field observations, collection for herbarium study, photography, laboratory studies, glasshouse studies and taxonomic presentation. How much less might we have known about ferns had we not grown them in cultivation either in a glasshouse or the garden? As to why Chris retained his interest in ferns, again six reasons were identified:–

- Working with a plant group that has a good fossil record,
- Working with plants which have a good temperate and tropical diversity,
- Working with a plant group which is well represented on islands,
- Working with plants that can be extensively cultivated,
- Working with a plant group that includes practical subjects for laboratory analysis,
- Working in a natural environment in which pteridologists are themselves 'indigenous'.

In an elaboration of the last point, Chris cited the BPS, and indicated how pteridologists work well as a team, each contributing something to the jigsaw. My overall impression from Chris' talk is that the spirit of the Victorian naturalist lives on!

Mary Gibby opened her talk by pointing out that her interests were in several fields of botany, not simply pteridology. She grew up adjacent to the Lake District, from where her love of plants was born. At Leeds University, she was inspired by the lectures of Prof. Irene Manton, then in her 60s. She learnt about biosystematics from John Lovis, another of her lecturers. Mary did her PhD at Liverpool University, investigating the origins of *Dryopteris dilatata*, which she determined to be *D. intermedia* x *D. expansa*. She then joined the Natural History Museum, and started her association with the Chelsea Physic Garden. She continued her work on *Dryopteris*, citing Hugh Corley as one of her inspirations in this work. Travels had included a trip to Guernsey to advise on the conservation of the rare hybrids *Asplenium* x *microdon* and *A.* x *sarniense*. Prof. Manton had initiated a study of the ferns of Madeira, which Mary continued, culminating in her writing (with Alison Paul) the pteridophyte section of the *Flora of Madeira*. Mary concluded her talk by showing a slide of her various colleagues at the Natural History Museum and describing their contributions to the world of pteridology.

Adrian Dyer started his contribution by explaining that his early inclinations had been towards coelenterates, mineralogy and archaeology, as well as flowering plants. He studied botany at university, developing a dislike of ferns, which he did not therefore study during the first part of his career! He decided on cytogenetics, which formed the subject of a PhD at Oxford University, using trilliums as the research subject. The early part of his career as a university lecturer was devoted to teaching cytogenetics and plant breeding. This led, via investigations of cell division and differentiation, to an interest in ferns, and in particular to a study of the effect of environmental conditions on gametophyte development. He has considered what determines where a fern will grow, and whether the two phase life cycle is a help or a hindrance. He has also studied the biology of bracken spores and their potential as a health hazard. His more recent interests have been the study of soil spore banks and he has grown many species from soil samples. Following on from this, Adrian has concluded that full investigation of the reproductive biology of ferns requires more work on the identification of gametophytes, even in the well studied British flora. Adrian concluded by taking us on a pictorial whistle-stop tour of various locations around the world to which fern studies have taken him, and showing the fern collection in his garden. And the aspect of his work he enjoyed the least? The midges in Scotland!

Like Adrian, Liz Sheffield admitted to being a 'hemi-pteridologist'. She professed to having been a reluctant botanist, but received inspiration in her student years from the lectures of Barry Thomas, with whom she also hunted for fossils. Liz's main pteridological focus, instigated by Peter Bell, has been the study of bracken, including its reproduction. In studying its sporogenesis, she has concluded that bracken has a surprisingly inefficient reproductive system. The gametophyte is very difficult to find in the field. In studying vegetative reproduction, she pointed out that bracken rhizomes

last about 30 years or so. Thus, determining whether a stand of bracken results totally from vegetative reproduction or not cannot be determined by digging! She showed some biochemical methods which can do so. Her studies have taken her to Hawaii, where bracken is an early coloniser of lava flows. Liz had also been inspired by Chris Haufler, from whom she gained much of her biochemical knowledge. She noted that in the US bracken is not a weed as it is in the British Isles. Liz concluded by showing slides of various newspaper articles reporting on the potential danger from bracken spores, in many cases illustrated by pictures of other ferns!

Having been raised in Norfolk, Clive Jermy studied botany at University College London, where Peter Bell was Clive's mentor. After an early spell of teaching, Clive joined the Natural History Museum to look after the Fern Section with Jim Crabbe. Clive paid homage to the various colleagues, both past and present, with whom he had worked during his years at the Museum. He was also grateful to have been befriended by Trevor and Molly Walker in 1959, and Trevor invited him to visit Trinidad in 1963. After some surreptitious vetting by the then BPS hierarchy, Clive was invited to be editor of the *British Fern Gazette* which he developed into an international journal but, in retrospect, he regretted changing its name simply to the *Fern Gazette*. He reminisced on his early associates in the BPS – Jimmy Dyce, Fred Jackson and Reg Kaye. Clive was very active botanising in Britain and Ireland with the BPS and BSBI and collected for the Museum in 17 European countries and made expeditions/excursions to Trinidad, New Guinea, Indonesia, Malaysia, Australia, India, Nepal, Costa Rica, Canada and the USA. Throughout his career, he has been concerned about man's interaction with the natural world, matters such as the depletion of forests being a particular concern. He was Founder Chairman of the International Association of Pteridologists and serves on the IUCN Plant Conservation Subcommittee, where, with David Given, he is working on a Conservation Status survey and an Action Plan for Ferns.

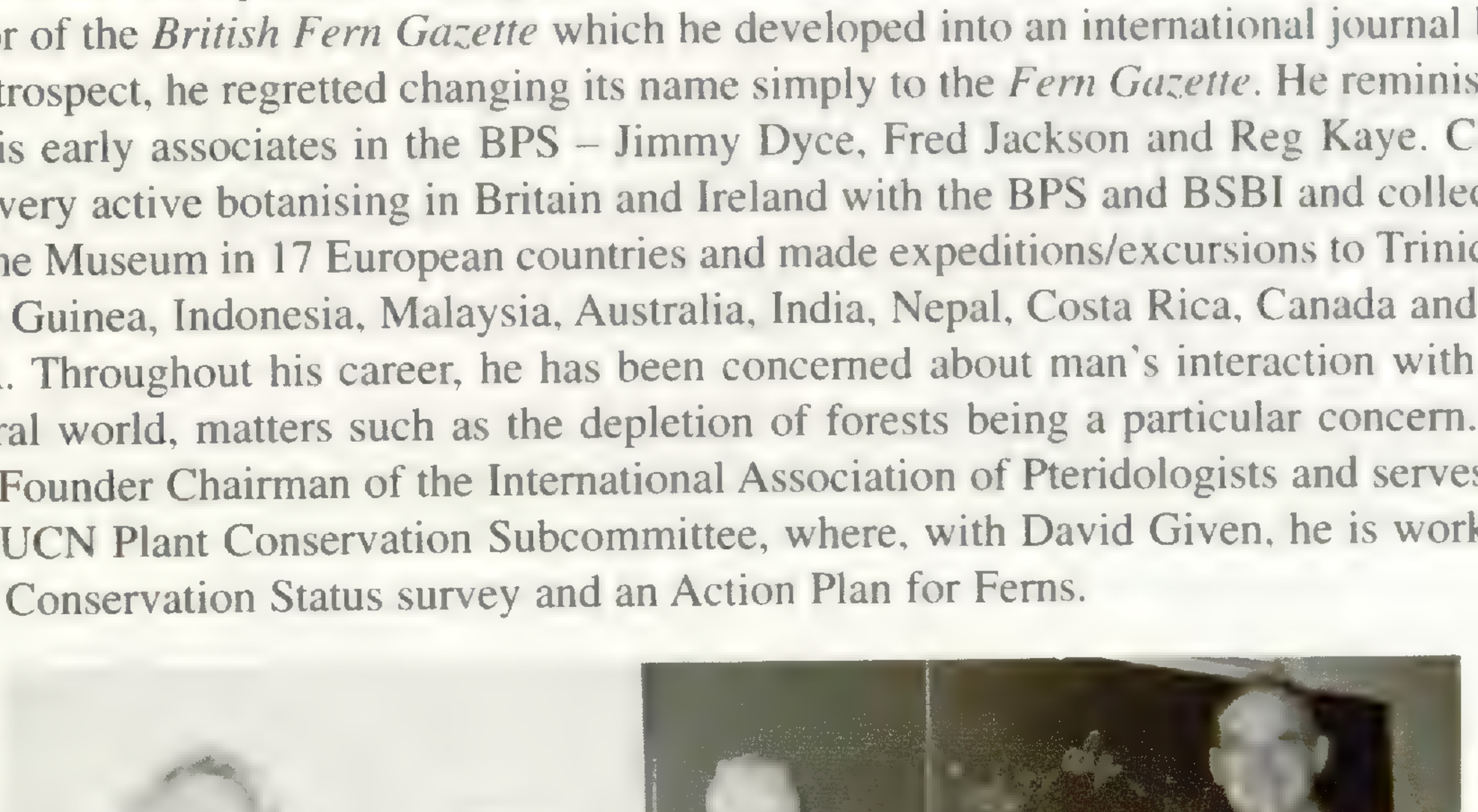

photo: A.C. Wardlaw

Clive Jermy, Mary Gibby, Chris Page, Liz Sheffield and Adrian Dyer
at Chelsea Physic Garden.

There is a risk in organising a meeting such as this that attendees might be subjected to an overdose of self-indulgence from the speakers. However, this was far from the case, all the pteridologists presenting highly entertaining accounts of their lives, striking excellent balances between the autobiographical and matters ferny. The consensus was that we had all attended a highly successful meeting.

Graham Ackers

RHS GARDENS, WISLEY, WOKING, SURREY – 13 June

We met at the entrance to the Royal Horticultural Society gardens at 10.30, where our leader for the day, Andrew Leonard, introduced us to Mike Grant, a botanist at Wisley, who had agreed to be our guide for the day.

We started in a pleasant walled garden where the ferns, though few, were an interesting mix of *Polystichum setiferum* varieties and other *Polystichum* species. We moved on to the wooded area where the small stream and damp conditions allow a number of British species and varieties and also American hardy ferns to grow to their full potential. Most notable were the osmundas. There was much discussion over the varieties of *Osmunda regalis*, particularly var. *spectabilis*, which seemed to reach spectacular heights.

In the rock garden we were impressed by the number of ferns that have become established over the years. Amongst the plantings, *Pseudophegopteris levingei* made a most pleasant and generous ground cover. Above the rock garden the Alpine House was home to a number of interesting friends, including *Cheilanthes* and *Asplenium* species, as well as a few more unusual plants.

We broke for lunch and then picked up the trail again in the greenhouses where there are a large number of well grown ferns hanging, climbing and some just colonising where they felt happiest. Some passers-by were amused at the discussions on *Adiantum raddianum* varieties in one display. Apparently they were just being used as a backdrop for the orchids which some of our number had failed to notice…

Outside the houses in the pouring rain we admired the very fine fern border which despite its (normally!) sunny drying position seems to grow better each time we see it. On we went to see the *Dicksonia antarctica* which have now survived three winters. Soaked by now we dripped for a while on the herbarium steps while a few sensible members retired to the bookshop. Inside, Mike introduced us to the nature of the herbarium which specialises mainly in cultivars. At this point we each took out sheets reflecting our own interests.

We finally thanked Mike for all his efforts during the day and I guess he must have enjoyed it a little because he said we could make it an annual event.

Patrick Acock

MIDLANDS FERN SHOW, UNIVERSITY OF WARWICK, COVENTRY – 18 July

Nineteen members attended this annual event which is an opportunity to see and exhibit ferns. During the morning members paid a visit to my garden and I was most obliged that several members agreed to relieve me of several roots of *Pseudophegopteris levingei* which was spreading through my polytunnel at an alarming rate, threatening to swamp many other small treasures. During the morning I gave a short talk on the history of my garden and I am indebted to Jennifer Ide for the following report:

If you didn't go you missed a treat!

By 11 o'clock, most competitors had arrived with their plants and assembled them in the show room, one or two requiring some 'repairs' due to disarrangement occurring in transit. Untangling fronds is, I suppose, an inevitability when they are nearing four feet in height and have travelled 70 or more miles to get there! It was obvious to all competitors that their plants were facing even greater competition than in previous years. It must be very gratifying to Matt to see the show, which he instigated, steadily growing in size and with standards rising each year.

For members attending, the sheer pleasure of seeing beautifully grown plants is well worth the effort of going to this meeting at Warwick University even if you do not enter the show. Most of the entrants have never entered plants at shows before exhibiting here, so why not try it next year? You may surprise yourself!

After a quick cup of coffee we all assembled in a nearby lecture room to hear Matt describe his initiation and subsequent developing interest in ferns, and in particular, the development of his garden at Kirby Corner Road, with a few compromises to keep Margaret happy! I always find it a joy to listen to Matt; you know that you are in for an informative talk laced with wit and a quiet sense of humour! Today was no exception.

Matt's interest in ferns dates from his days as a science technician at Aston University when, as the result of one of his own suggestions, he was given the task of building up a living collection of ferns for teaching purposes. (That'll l'arn ya', Matt!) An early acquisition was an eight foot tree-fern which turned up as a result of a request to Chris Page at the Royal Botanic Gardens Edinburgh for help in provisioning the collection!

Matt's first fern garden was just eight foot square at the front of his and Margaret's first home in Smethwick, near Birmingham. On moving to 16 Kirby Corner Road, Coventry in 1985, Matt inherited a larger, though still small but useful sized garden, which, in his own words, "had previously had a great deal of expense and expertise spent on planning and laying out the lawn and one apple tree!" The snag? Heavy clay soil! It may be hard work and it may crack but it at least it doesn't dry out!

The soil was so heavy that Matt was forced to hire a rotovator to dig a border alongside the straight path Margaret required for hanging out her washing (compromise no.1!). (Later Margaret was persuaded that she could still hang clothes out from a 'bent' path!) This border today boasts a fine collection of lady ferns and hellebores. He planted several bushes in strategic places to provide shade and acquired a greenhouse from a neighbour in which to grow some of the more tender ferns. A large trough sink, rejected by the college where he worked, was converted into a raised bed for alpine and maritime plants to provide interest near the house. Matt experimented with bamboos as a curtain shade, but the shade was too deep. Marital harmony was retained when Matt agreed to Margaret's wishes for a pond, but the clay soil defeated efforts to make a large one, and so a small pond and a bog garden were created instead! This still left some lawn on which Margaret could sunbathe (compromise no.2!).

A more recent and developing interest of Matt's is growing foreign hardy ferns. He has a theory that such ferns do better if kept dry in winter and has constructed a large polythene tunnel for this purpose. Runner beans grown on the sunny side of the tunnel in the summer provide green shade for the plants inside. A collection of male ferns do well on the shady side of the tunnel and at the far end is a fine *Cupressus macrocarpa* to provide shade, grown unexpectedly large, from seed from Tunisia! At the far end of the garden raised benches support Matt's NCCPG collection of osmundas, potted and standing in trays in order to maintain the moisture these plants require.

In different parts of his garden Matt has experimented with combinations of ferns and other plants. One of the most successful is in his front garden. Here he has planted the scaly male ferns varieties *Dryopteris affinis* 'Revolvens', 'The King', 'Ramossisimum Wright' and 'Stableri' with winter flowering heathers. The heathers provide shade for the fern roots in summer and give colour and ground cover in winter.

Matt's talk was followed by the practical demonstration – a conducted tour of his garden. There are many other goodies in the garden not mentioned and not a few of us

came away with carrier bags holding samples of "some of the more aggressive ferns" – and others!

The show judge was Mrs Rita Coughlin assisted by Mrs Margaret Collins and the results were:

Class 1 – One Pot Fern (any kind or variety)
1st Mr L. Kirkham, 2nd Mr A.H. Ogden, 3rd Mr R.J. Smith
Class 2 – Three Pot Ferns (any kind or variety)
1st Mr L. Kirkham, 2nd Mr L. Kirkham, 3rd Mr R.J. Smith
Class 3 – One Pot *Equisetum* (any kind or variety)
1st Miss J.M. Ide, 2nd Mr P.J. Acock, 3rd Mr P.J. Acock
Class 4 – One Pot Aquatic Fern (*Azolla, Salvinia* or *Marsilea* only)
1st Mr P.J. Acock

This year saw the innovation of a points system, with the exhibitor amassing the most points over all classes to receive the J.W. Dyce Trophy. Mr L. Kirkham was awarded the trophy having achieved eight points.

photo: J.M. Ide

Matt Busby *(left)* presenting Lawrence Kirkham with the J.W. Dyce Trophy at the Midlands Fern Show.

During the afternoon members were able to peruse a collection of ferny postcards collected by Jennifer Ide during her recent visit to New Zealand, pictures sure to whet the appetite for a visit to that wonderfully ferny country. Jennifer also exhibited non-competitively an arrangement of ferns with other plants in a container. This may form the basis for a new competitive class in future shows.

My sincere thanks to everyone who attended the meeting and especially to all the exhibitors, to Brenda Smith for overseeing the refreshments, to Margaret Collins for acting as Show Steward, to Rita Coughlin for judging the ferns and to Jennifer Ide for her contribution to this report.

A.R. Busby

REGIONAL MEETINGS 1998

LEEDS & DISTRICT

Barry Wright

Raydale and Wensleydale, North Yorkshire – 20 June

The day dawned clear and bright for the first of our excursions. The fine, mild weather was to become a feature of our field trips during a year when others seemed less fortunate! We assembled on the village green of Marsett in a short valley – Raydale – off Wensleydale, near Bainbridge (34/933862). The object of the morning was to explore Bardale Beck, a typical mountain stream which cuts its way through the Carboniferous Limestone bedrocks on its way to Semer Water. There were small waterfalls and associated clifflets less than 2m high that supported a fern flora of *Asplenium trichomanes-ramosum* (syn. *A. viride*) and *A. ruta-muraria*. On the steep banks associated with one of the waterfalls (34/893861) and under some trees were small colonies of *Athyrium filix-femina, Dryopteris dilatata, D. filix-mas* and a few *Polystichum aculeatum*. There were also some epiphytic plants of *Polypodium vulgare* nestling in the humid shade on the north bank.

Some 30m further upstream there was a real cliff – 6m high – supporting *Cystopteris fragilis, Asplenium trichomanes* subsp. *quadrivalens* and more *Polypodium vulgare*. Still further upstream we searched, in vain, for *Botrychium lunaria*. But, we did find moderate quantities of *Selaginella selaginoides*. Both species are best looked for before the sheep have had too long on the fells to eat all of the above-ground parts.

In the damp grasslands bordering the stream were both *Equisetum arvense* and *E. palustre*; the latter was fruiting well in some colonies. Curiously, there was a low pile of stones near the stream which supported *Asplenium trichomanes-ramosum, Cystopteris fragilis* and *Asplenium trichomanes* subsp. *quadrivalens*. An odd collection for what seemed to be a fairly recent pile of boulders.

En route to the pub for lunch we stopped off at a known station for *Botrychium lunaria* at 34/984899. In addition to the moonwort, there were also a few *Selaginella selaginoides* and *Equisetum palustre* plants.

After suitable refreshment we tackled the very ferny Gillfield or Condenser Wood near Preston-under-Scar (44/077917). This extensive woodland was remarkable for the lack of *Pteridium aquilinum* and the abundance of 'good' ferns such as *Dryopteris filix-mas, Athyrium filix-femina, Dryopteris dilatata* and several subspecies of *D. affinis*. Without confirmation the specimens were closest to subspp. *affinis, borreri, cambrensis* and *robusta*. There was an outcrop of limestone rock along one valley which was home to *Polystichum aculeatum, Cystopteris fragilis* and *Asplenium trichomanes* subsp. *quadrivalens*.

All-in-all a good day out, with only a hint of rain as we headed back to the cars.

Cotterdale, Hawes, North Yorkshire – 4 July

Not quite a BPS meeting, but one to which we were invited by the Yorkshire Naturalists Union. They were short on pteridological expertise and asked if we would like to join them. So we met up at the head of Cotterdale – another short valley leading off from Wensleydale. We were to cover a stretch of West Gill from 34/831938 to 34/821959.

Again another glorious mild and sunny day for a full and rewarding excursion. At the start-point the bridge was colonised by *Asplenium trichomanes* subsp. *quadrivalens* and *A. ruta-muraria*. Progressing up the valley there were patches of both *Equisetum arvense* and *E. palustre*, with odd plants of *Dryopteris filix-mas, D. dilatata, Athyrium filix-femina, Oreopteris limbosperma* and *Blechnum spicant*.

At a shale cliff (10m high) there were calcicolous elements to the fern flora with the addition of *Cystopteris fragilis, Polystichum aculeatum, Asplenium trichomanes* subsp. *quadrivalens* and *A. trichomanes-ramosum. Phegopteris connectilis* and *Polypodium vulgare* were also present. In this area there were very few *Dryopteris affinis* subspp. *affinis* and *borreri* with the ubiquitous *Pteridium aquilinum*. Further up still there was a magnificent stand of *Phegopteris connectilis* on the side of the stream beside a small waterfall. Also, curiously, this species was growing within 10cm of a plant of *Asplenium trichomanes-ramosum* in a limestone crevice on a dry waterfall on a small tributary some 30m away from the stream.

At the end of the long trek up the valley there was a treat. From a distance across on the northern wall of the waterfall at Seavy Sike Force (34/821959) I saw a horsetail whose name I dared not speak in case it turned out to be something entirely different. But it looked, through binoculars, to be *Equisetum variegatum*. It was in fact that species, and a superb colony, clinging to the dripping ledges next to the main fall. One of the reasons for hesitation was the presence of *E. arvense* intermixed with the *E. variegatum*. This was a new 10km square record and vindicated our presence on the excursion. Honour intact, we returned to base to see a specimen of *E. sylvaticum* which had been collected by a YNU member down by the stream in the village.

Falcon Clints, Teesdale, Durham – 11 July

A truly marvellously sunny and warm morning set the tone for another typical northern fern excursion. Having pondered over the identity of some marsh orchids at the meeting place (35/847310) near Langdon Beck we set off to walk the 2km to the start of the rocks and scree which formed the base of the infamous Falcon Clints (former home to *Woodsia ilvensis*). We couldn't get the key to the gate from English Nature because there were no disabled members in our party and we could not possibly have taken anyone with disabilities across such terrain; so we were in a 'catch 22' situation – talk about bureaucracy!

Having passed a few flushes with *Equisetum palustre* on the way, we started the scramble at 35/832286. We had a good start with one of those boring Teesdale rarity flowering plants, *Saxifraga aizoides* or something(!), plus a really good find of some *Selaginella selaginoides*. Things went a bit downhill after that with *Pteridium aquilinum*, but soon began to pick up with some good stands of *Dryopteris oreades* in the boulder scree. Other species included *Blechnum spicant, Athyrium filix-femina, Dryopteris dilatata, Asplenium trichomanes* subsp. *quadrivalens, Huperzia selago, Polypodium vulgare* and *Cryptogramma crispa*. With the boulders comprising a mix of limestone and acidic rocks, the fern flora was also mixed, with *Cystopteris fragilis, Asplenium ruta-muraria* and *Polystichum aculeatum* in the more calcareous areas and in crevices in limestone blocks.

On the cliffs above the scree there was a limestone sandwich, with igneous rocks above and below a seam of limestone which was some one metre thick. Where the limestone interfaced with the upper bed of the igneous rocks there were scattered plants of

Polystichum lonchitis. Also along this cliff were *Dryopteris filix-mas* and *Gymnocarpium dryopteris*.

Back down to the boulder scree and on to search for 'Ken's Big Rock'. This is a huge monolithic rock standing at the foot of the scree close to the river where Ken Trewren had assured our leader (John Durkin) that there was a colony of *Dryopteris expansa* and also a possible hybrid between it and *D. dilatata* – *D.* x *ambroseae*. We were certainly convinced, particularly in view of the location. The *D. expansa* was growing in large boulder scree of some half metre dimensions. This fits with a similar site near Thirlmere where the *D. expansa* grows in almost identical circumstances of massive boulder scree. As at Thirlmere, the *D. expansa* at 'Ken's Rock' was surrounded by lesser boulder scree (less than quarter metre dimensions) supporting the more common *D. dilatata*. Hence the potential for hybridisation was high: there did seem to be at least one plant which was intermediate between the two parents.

The only other excitement was when we reached Cauldron Snout (35/814286) and found some *Phegopteris connectilis* and a handsome plant of *Dryopteris affinis* subsp. *affinis* growing in the spray of the falls.

As a coda, we tripped off downstream on the path from the car parking spot to see a good colony of *Equisetum pratense*.

photo: courtesy B. Wright

Betsy Kohler, John Durkin, Paul Ruston and Barry Wright
at Cauldron Snout waterfall, Teesdale.

Harlow Car Botanic Garden, Harrogate – 25 July

The good weather continued for one of our horticultural meetings which was organised by Jack Bouckley to show members the state of the NCCPG National Collections of *Dryopteris* and *Polypodium*. And what a state they were in. Despite Jack's best efforts the labelling left a lot to be desired. Species which had been correctly identified in the past no longer had their labels. There were many interesting species, but no-one knew what they were. Some of the labels were wrong, even in the eyes of relative novices. It was a very handsome and attractive collection in a fine setting, but it begs the question, "is this the best place to house such collection?" Only time will tell.

One of the jobs we had to do whilst we were there was to remove some of the invading *Gymnocarpium dryopteris* (both the normal and plumose forms) and *Phegopteris connectilis* from their shade house. Thankfully it comes out very easily and members went home with bagfuls of the stuff.

photo: courtesy B. Wright

Neil Timm, Paul Ruston and Richard Unett weeding out oak fern
at Harlow Car Gardens, Harrogate.

Finally, after a speedy car-boot fern exchange we rounded off the day with a quick trip to Tockwith to look at my garden and relieve me of some of my surplus ferns, all in aid of group funds. I had spent much of the previous two weeks struggling to finish off my first attempt at a shade house. This was only 18ft x 8ft, but was stocked with 49 different taxa all of which were found to dislike the almost total lack of shade in the open garden. Shade houses make marvellous places to hide from digging and washing-up!

Todmorden, West Yorkshire – 15 August

With the weather continuing to be mild and sunny the assembled few set off to hopefully track down some old fern records for Atlas 2000. We started at Sheddon Clough (44/893297) looking hopefully for *Gymnocarpium robertianum, Asplenium trichomanes* subsp. *quadrivalens* and *A. adiantum-nigrum*. All to no avail. However, we did find *Athyrium filix-femina, Blechnum spicant, Cystopteris fragilis, Dryopteris dilatata, D. filix-mas, Equisetum arvense, E. palustre* and *Oreopteris limbosperma*. There was also one of those embarrassing moments when we saw, through binoculars, what seemed to be a limestone outcrop on the side of a steep valley. Just the place for *Gymnocarpium robertianum, Asplenium trichomanes* subsp. *quadrivalens* and *A. adiantum-nigrum*. Or so we thought. Much walking and scrambling ensued only to find that our outcrop had bits of metal and an old bedstead embedded in it. It wasn't limestone at all, but a load of concrete dumped there some 30 to 40 years ago which had weathered down to look like limestone!

After lunch we bade farewell to our leader, Richard Unett (still recovering from an operation to his knee) and set off to Great Bridestones (44/932268), supposedly home

to *Diphasiastrum alpinum*. Not a chance! The area was heavily sheep grazed and used by rock climbers. But we forged on towards our next site only to come across a nice little colony of *Ophioglossum vulgatum* at 44/927263 on a small patch of calcareous grassland surrounded by a more acidic sward.

The next area to search was described as Rake, or Rake Hey and supposedly contained *Equisetum telmateia* and *Hymenophyllum tunbrigense*. Both species are normally found in woodland. That's where we had trouble: there weren't any woodlands there any more. Obviously things had changed since 1904 when the area was presumably more wooded. We did search one steeply wooded gill at 44/925260, but all we could find was *Athyrium filix-femina, Blechnum spicant, Dryopteris dilatata, Equisetum arvense, Oreopteris limbosperma* and *Pteridium aquilinum*, with one record of *Asplenium scolopendrium* on the outside of a garden wall. Thanks to Richard for all his research. It was a shame we couldn't refind any of the old records this time.

Messingham Sand Quarries, Lincs. – 19 September

Our final bask in the sunshine was mixed field and garden/nursery visits.

The first stop was to see a colony of *Pilularia globulifera* at the local nature reserve near Messingham (44/907031). There were several water-filled pits supporting colonies of *Pilularia*. One of the best for pillwort was still in use as an irrigation reservoir which means that there were fluctuating water levels. At the time of our visit the depth ranged from drying mud to 0.5m depth. In winter the depth was up to 2m.

We proceeded to the home of Ron and Pat Cole in Messingham for a guided tour of their garden and a much needed 'cuppa'. It was truly amazing that so many plants (both ferns and flowers) of different types could be crammed into such a small garden. There were greenhouses and frames everywhere. Ron showed us some handsome specimens of unusual taxa which he had grown from spores.

The second field site was coniferous woodland at Nettleton Moor near Caistor (53/089995). Coniferous woods are not renowned for their interesting fern floras, but this one had a few surprises. There was a dense undergrowth of *Pteridium aquilinum*, but where there were drainage ditches we found species such as *Athyrium filix-femina, Dryopteris dilatata* and *D. filix-mas*. There was also a magnificent plant of what seemed to fit either *D. affinis* subsp. *robusta* or *D.* x *complexa*. As it turned out to have good spores it was put down as the former.

Our leader, Neil Timm, took us to a site for *Polypodium*. It was in a most unusual setting, on the top of the boundary ditch for the wood, above a rabbit hole. The plants resembled *Polypodium interjectum* in their gross morphology, so fronds were taken back for closer examination. Unfortunately, there were no normal sporangia. All were shrivelled, making determination using the indurated cell characters impossible. So it went down as *Polypodium vulgare*? We await further developments and better specimens.

Neil had also seen *Dryopteris carthusiana* on a previous visit. There did not seem to be any suitable habitat for it until, by chance, some 300m from the car park we spotted three or four tight colonies growing near a drainage grip. A search for the hybrid *Dryopteris* x *deweveri* proved fruitless.

The final stop on our whirlwind tour of the ferny spots of Lincolnshire was Neil's Fern Nursery at Binbrook. At first glance it seems too small to hold enough stock to run a fern business. But once round the back, the property opened up to reveal beds, borders,

ponds and trees and, of course, a converted polytunnel for the nursery stock. Neil and his family had done a marvellous job of turning fields into ferneries. Many of the plantings were not fully established but there was enormous potential. And, of course, we did not go home empty-handed, nor hungry, as Neil's mother had prepared a feast for us to digest with the many tales of ferns, both in the wild and in cultivation. Warm thanks for their hospitality and a very civilised and fitting end to our 1998 meetings. 1998 must go down as the best one for weather for our meetings. We can't understand why people complained about rain; what rain?

SOUTH-EAST

Rumsey Gardens, Clanfield and Portsmouth, Hampshire – 11 July
(Leader: Andrew Leonard) **Patrick Acock**

Nine South-East members were met at Rumsey Gardens, Clanfield by the owner, Mr N. Giles, who enthusiastically showed us his hardy ferns at the entrance to the nursery. From here we were led to his garden where the shading and the many water features made it an ideal situation for ferns to flourish. Many choice plants were grown amongst the ferns with some areas and borders devoted mainly to ferns. There was a mixture of species and varieties.

We were then taken behind the scenes at the nursery and shown some pressed specimens of hardy ferns brought back from China by one of Mr Giles' children, all but two of which were now in various stages of cultivation. We moved on to see many of these in the houses and were allowed to add some to our own collections at a reduced price. We then went into the greenhouse where the stock plants and sporelings were being raised. The nursery is a fine place to visit and we would like to thank Mr Giles for his hospitality.

From here we ventured South to Portsdown Road for lunch where we had a splendid, if windswept, view of Portsmouth, Hayling Island and the Isle of Wight.

It was on reaching our next destination that Linda discovered that the 'Portsmouth Botanic Gardens' as it is affectionately known by some SE Group members, is a euphemism for an allotment plot in the south-east corner of the peninsular. Having said that, one should not be in any doubt that the collection grown here would shame many botanic gardens in one section, namely, the ferns. Apart from a few palms beside a grandiose entrance to the large shade house, there were only ferns. The 'curator', Andrew Leonard, explained that although Portsmouth is obviously close to the sea, the temperature did drop at times to –5°C. He often took this into account when in the field, enquiring of the natives as to whether frosts occurred in their region. He tends to take risks if he has many plants of the same species raised from spores, planting some outside, and this seems to have paid off, with native ferns from Madeira, Canary Islands, Hong Kong and Malaya all successfully intermingled with British plants. After availing ourselves of many carrier bags of ferns we travelled on to the 'nursery department' across town.

Two rooms of Andrew's house are dedicated to the raising and propagation of ferns and also the nurture of frost sensitive ferns. We were once again allowed to carry off more prizes. We would like to thank Andrew for leading such a fascinating day and for all his generosity with the plants.

BRITISH PTERIDOLOGICAL SOCIETY

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December 1998

NOTE

Please remember to notify the Membership Secretary of any changes of address.
Amendments to this list will be published in future issues of the *Bulletin*.

H denotes Honorary Member
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Jardin Botanique, Parc de la Tête d'Or, Ville de Lyon, Lyon Cedex 06, F-69459, France
Kansas University Libraries, Serials/Retrieval Services, 210 Watson, Lawrence, Kansas 66045-2800, USA
Kendal Library (Cumbria County Library), Strickland Gate, Kendal, Cumbria LA9 4PY
Konyvtar, E., Universitatsbibliothek, P.O.B. 233, Budapest, H-1364, Hungary
Landcare Research New Zealand, P.O. Box 69, Lincoln, Canterbury, New Zealand
Leicester University Library, P.O. Box 248, University Road, Leicester, Leics. LE1 9QD
Leiden Rijksherbarium, Bibliotheek, P.O. Box 9514, Leiden, 2300 RA, Netherlands
Library of Congress, Exchanges and Gift Division, Gift Section, 10 First Street SE, Washington DC 20540, USA
Libreria A. Raguzzi SRL, Via San Marino 32, Roma 00198, Italy
Liège University, Dept. de Botanique, Sart Tilman, B.22, Liège, B-4000, Belgium
Linnaean Society, Burlington House, Piccadilly, London, W1
Liverpool Museum, William Brown Street, Liverpool, Merseyside L3 8EN
London Natural History Society, Central Libraries, Imperial College, London, SW7 2AZ
Los Angeles International Fern Soc., P.O. Box 90943, Pasadena, California 91109-0943, USA
Lowveld National Botanic Garden, P.O. Box 1024, Nelspruit 1200, South Africa
Malaga University, Departmento de Botanica, Biblioteca, Facultad de Ciencias, Camino de la Misericordia, Malaga 29071, Spain
Manchester University, John Rylands Library, Periodicals Dept.,Medical/Science Sectn., Oxford Road, Manchester, M13 9PP
Trebah Garden (attn Ms R. Martin), Mawnam Smith, Falmouth, Cornwall TR11 5JZ
Melbourne University, Baillieu Library, Parkville, Melbourne, Victoria 3052, Australia
Miami University, Dept of Botany (attn Dr M.A. Vincent), 79 Upham Hall, Oxford, Ohio 45056, USA

Michigan State University, 100 Library, East Lansing, Michigan 48824-1048, USA
Miller Library, University of Washington, Box 354115, Seattle, Washington 98195-4115, USA
Missouri Botanical Garden Library, P.O. Box 299, St Louis, Missouri 63166, USA
Musée Botanique Cantonal, 14bis Avenue de Cour, Lausanne, CH 1007, Switzerland
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National Botanic Gardens, Glasnevin, Dublin 9, Eire
National Botanical Institute, Private Bag x101, Pretoria, Transvaal 0001, South Africa
National Botanical Research Institute, Rana Pratap Marg, Lucknow, Uttar Pradesh 226001, India
National Museum of Natural Science, 1 Kuan Chien Road, Taichung, Taiwan, Republic of China
National Museum of Wales, Cathays Park, Cardiff, S. Glamorgan CF1 3NP, Wales
Natural History Museum, Acquisitions Section - DLIS, Cromwell Road, London, SW7 5BD
Nederlandse Varenvereniging, The Secretary, J.G. Greep, van Remagenlaan 17, Arnhem 6824 LX, Netherlands
Nelson Fern Society Inc, 9 Bay View Road, Atawhai, Nelson, New Zealand
New York Botanical Garden, Luesther T. Mertz Library - Serials Exch, 200 Southern Boulevard, Bronx, New York, New York 10458, USA
Nippon Fernist Club, c/o Dr T. Nakaike, Chiba Prefecture Central Museum, Aoba-cho 955-2, Chuo-Ku, Chiba 260, Japan
North Carolina University at Chapel Hill, CB-3938 Davis Library, Chapel Hill, North Carolina 27514-8890, USA
Northern Horticultural Society, Harlow Car Botanical Gardens, Crag Lane, Harrogate, North Yorks. HG3 1QB
NPK Landlife Ltd., 40 Farlands Drive, East Didsbury, Manchester, M20 0GB
Oxford University, Dept. of Plant Sciences, South Parks Road, Oxford, Oxon. OX1 3RA
Queensland Herbarium, Dept. of Environment and Heritage, Brisbane Botanic Gardens Mt Coot-tha, Mt Coot-tha Road, Toowong, Queensland 4066, Australia
Royal Botanic Garden, Inverleith Row, Edinburgh, EH3 5LR, Scotland
Royal Botanic Garden/National Herbarium, Birdwood Avenue, South Yarra, Victoria 3141, Australia
Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE
Royal Horticultural Society, Lindley Library, 80 Vincent Square, London, SW1P 2EP
SGAP (Fern Study Group), c/o Moreen Woollett, Hon. Sec., 3 Currawang Place, Como West, New South Wales 2226, Australia
San Diego Fern Society, 1418 Park Row, La Jolla, California 92037, USA
Schweizeris Vereinigung der Farnfreunde, Inst. für Systematische Bot., Zollikerstr. 107, Zürich, CH 8008, Switzerland
Senckenbergische Naturforschende Gesell., Abtlg., Zeitschriften-Tauschverkehr, Senckenberg-Anlage 25, 6 Frankfurt, D60325, Germany
Societas Botanica Czechoslovaca, Benataka 2, 128 01 Praha 2, Czech Republic
Southport Flower Show Ltd, 28a Princes Street, Southport, Merseyside PR8 IEQ
Swets Subscription Service, P.O. Box 142, Abingdon, Oxon. OX14 1GY
Sydney Royal Botanic Gardens, Mrs MacQuaries Road, Sydney, New South Wales 2000, Australia
Tartu University, Gardens, Lai 38, Tartu EE2400, Estonia
Tasmanian Fern Society, 72 Bush Creek Road, Lenah Valley, Tasmania 7008, Australia
Tropical Botanic Garden & Research Inst., Pacha Palode, Nedumangad, Trivandrum, Kerala State 695 562, India
Tulane University, Serials Section, Howard-Tilton Memorial Library, New Orleans, Louisiana 70118, USA
Turku University, Dept. of Botany, SF-20500, Turku 50, Finland
Ulster Museum, Botanic Gardens, Belfast BT9 5AB, Northern Ireland
Univ. Complutense, Fac. Farmacia, Dept. de Biologia Vegetal II, Ciudad Universitaria s/n, Madrid 28040, Spain
University College of Wales, Hugh Owen Building, Penglais, Aberystwyth, Dyfed SY23 3DZ, Wales
Vakgroep Biologie Lab, Plantkunde, (attn Prof. E. Coppejans), Ledeganckstraat 35, Gent B-9000, Belgium
* Vanderbilt University Library, Serials Receiving, Suite 700 Baker Building, 110 21st Avenue South, Nashville, Tennessee 37203-2408, USA
Washington University Libraries, Serials Division FM-25, Seattle, Washington 98195, USA
West Australia Fern Society, 73 Point Walter Road, Bicton, Western Australia 6157, Australia
Zürich Botanischer Garten und Institut für Systematische Botanik, Zollikerstrasse 107, Zürich, CH-8008, Switzerland

St Leonard's Forest nr. Crawley and High Beeches Gardens, Handcross, West Sussex – 26 September

Paul Ripley

Twelve members met near Spring Farm (51/231313) to visit St Leonard's Forest, an area not previously covered by the group. We were particularly pleased to be able to welcome Bruce Douglas to his second meeting with us. We were also very grateful to Pat Acock, Tim Brock, Graham Ackers and Andrew Leonard for bringing some very well grown ferns for other members.

Walking down through formerly coppiced woodland we encountered, apart from the ubiquitous bracken (*Pteridium aquilinum*), *Dryopteris filix-mas, D. affinis* morphotype *borreri* (one plant), *D. dilatata, D. carthusiana* (never common, and growing in very dry positions) and *Blechnum spicant*. By the ghyll, large *Athyrium filix-femina* plants were common and a single *Oreopteris limbosperma* plant was noted. Some interesting *Dryopteris affinis* were inspected; apart from morphotype *borreri*, morphotype *affinis* was also present. Further down the ghyll in old masonry under a bridge *Asplenium scolopendrium* was found.

We walked further along this footpath, past Springfield Farm and some handsome Sussex cattle. At 51/220313 there was a fine stand of well grown *Oreopteris limbosperma*. By a circuitous route, only slightly longer than intended (!) we lunched at the Wheatsheaf at Plummers Plain. There are some interesting hammer-ponds here and *Equisetum fluviatile*, among other plants of interest, had been found during reconnaissance; Trevor Lording left us at this point to look for hybrid pondweeds, but we did not have time to visit these areas.

The manageress of High Beeches Gardens, Anne Boscowen, her husband, and the Head Gardener, Chris Wardle, accompanied us on our visit to these beautiful gardens (51/275309). One of the famous Loder gardens in this part of the sandstone Weald, the gardens were created out of a cleared oak plantation, some 150 to 200 years old. Standards had been left to provide shade, but clearance following the hurricane of 1987 has made the gardens much more open than when they were created. We found almost entirely *Dryopteris affinis* (morphotype *borreri*) scattered through the gardens, whereas *D. filix-mas* grows only near the buildings, an indication that the gardens were once more wooded. A number of ghylls tracked through the grassy slopes, and *Equisetum telmateia* was seen here in addition to most of the species seen earlier. Some very fine *Osmunda regalis* specimens were present and were happily seeding themselves on the stream banks.

After a welcome cup of tea and while we got thoroughly soaked, a detour was made to see *Asplenium adiantum-nigrum, A. scolopendrium, A. ruta-muraria* and (in abundance) *A. trichomanes* growing in old walls of former stable buildings.

Mention must be made of the willow gentian (*Gentiana asclepiadea*), naturalised in the wooded area and still flowering, and the fact that *Ophioglossum vulgatum* grows in the preserved 'hay meadow'. The Boscowens travel widely and plants, especially rhododendrons, are being added to the collection here all the time. We were indeed grateful to them and also to Chris Wardle, for giving up so much time to show us their beautiful gardens.

End of Season Meeting, Sheffield Park, East Sussex – 10 October

Pat Acock

Around twenty members and friends gathered at these lovely National Trust gardens (51/4124) encircling splendid lakes. The gardens are noted for their spring flowers and

autumn colours. We managed to see a few ferns including many sporeling osmundas on a large waterfall, and many spectacular trees.

We returned to Paul Ripley's house in Tonbridge, Kent to tour his estate which is constantly developing and expanding on the fern front. Since our last visit the *Polystichum* collection in the side borders has been much enlarged and a fine *Dicksonia antarctica* has been added to the woodland section. A new greenhouse has been added for planting out sporelings and protecting the more delicate ferns.

Inside we were treated to a marvellous tea provided by Linda and Paul.We then had an end of season slide-show of members' fern forays; these included talks on Bulgaria, La Palma and two on the GEP visit to the Italian Alps.

EAST ANGLIA

Indoor Meeting, Barrow, Suffolk – 1 February

Barrie Stevenson

Our programme began earlier than usual as a result of a telephone call from Peter Richardson offering to show members a video of Australian ferns. Peter belongs, via the Internet, to Fernet, an international fern discussion group of about 200 members and had received the video from Keith Rogers of Mannum, near Adelaide. I quickly contacted Members and a total of 11 of us met at Marie and Geoff Winder's home at Barrow, near Bury St Edmunds, where we enjoyed two and a half hours of sunshine and ferns, a contrast indeed to the cold, damp weather of an English winter afternoon.

The video, made by Keith Rogers, included a tour of his garden, with its 5,000sq.ft shade house and extensive collection of platyceriums, tree-ferns, davallias and Marattiaceae. Almost all of Keith's 3,000 ferns are in pots because of the calcareous clay soil at Mannum, and he has automated watering for them. Also included in the video was a section on ferns in the wild on Australia's east coast in the Blue Mountains and around Townsville in Queensland (*Platycerium veitchii* in particular). A highlight was a visit to the famous fern-bedecked railway station at Kuranda, Queensland and the gardens of fellow enthusiasts Calder Chaffey in Wollongba, New South Wales, and Rod Pattison in Brisbane. The final hour of the video covered a trip to Lord Howe Island showing some of the ferns (including the endemic *Cyathea robusta*) and the *Howea* palms for which this World Heritage designated island is most famous.

The innovation of a meeting at this time of year was considered a great success; a mid-winter meeting will therefore be included in next year's programme.

Swiss Garden, Biggleswade, Bedfordshire and Craddock's Garden, Ampthill, Bedfordshire – 14 June

Tim Pyner

Twelve members and friends arrived at the Swiss Garden, $4\frac{1}{2}$ miles west of Biggleswade and were met by Dr Nancy Dawson, Conservation Officer for the Bedfordshire and Huntingdonshire Naturalists Trust for ten years, and Julia Powell the Head Gardener, who acted as leaders for our visit.

We went first to an area of semi-natural, damp woodland adjacent to the garden entrance. There we saw plentiful *Dryopteris filix-mas, D. dilatata, D. affinis* subsp. *borreri, Polystichum aculeatum, P. setiferum* and their hybrid *P.* x *bicknellii. Asplenium scolopendrium* grew along the stream banks. These had all been recorded in the past by Dr Dawson but we did find several plants of *Athyrium filix-femina* which was a new record. The polystichums seemed quite confusing until we found

P. aculeatum on a stream bank and realised that many of the largest plants were *P.* x *bicknellii*. Microscopic examination of the spores later confirmed this. Also of interest were scattered plants of broad-leaved helleborine (*Epipactis helleborine*) which had developed well due to the wet spring and early summer.

We next visited the Swiss Garden, an early 19th Century ornamental garden with many interesting plantings and fascinating buildings, including a Swiss Cottage and a Grotto and Fernery. Within the garden ferns were conspicuous in several areas. Cultivars of *Dryopteris filix-mas* were detected and puzzled over. *Pteridium aquilinum* was added to the list of recorded ferns. Finally before lunch we visited the Grotto of tufa and Pulhamite stone, which has recently been replanted with a selection of common hardy and tender ferns. Species not seen previously included *Osmunda regalis* (nice specimens), *Cyrtomium falcatum* and *C. fortunei*, *Pteris cretica*, *Adiantum hispidulum*, *Polystichum polyblepharum* and *Polypodium* agg. 'Cornubiense' group.

The afternoon was spent visiting Mick and Linda Craddock's garden in Ampthill, where we were joined by Ray and Brenda Smith. Several members had not been to the garden before but we were already aware that this was no ordinary garden. We were not disappointed. As previous visitors have noted, space to grow ferns is found everywhere (I shall only mention the other groups such as palms and agaves in passing). The ground, walls and even the roof are covered in ferns while Mick's ingenious irrigation system is worthy of an article of its own. Of particular note is the impressive NCCPG collection of Davalliaceae in a small greenhouse. A large *Stenochlaena palustris* climbs up a brick wall of the same greenhouse. Various *Cyathea* and *Dicksonia* species are grown in tubs and in a border of another greenhouse in the rear garden. I noticed

photo: Hugo Stevenson

East Anglian Regional Group's visit to Mick and Linda Craddock's home.

Standing: Geoff Winder, Howard Matthews, Barrie Stevenson, Rosemary Stevenson, Brian Cox, Alf Hoare *(front)*, Peter Richardson, Tricia Craddock, Tim Pyner.
Sitting: Marie Winder, Mary Hilton, Mick Craddock, Jennifer Cox, Linda Craddock, Brenda Smith.

Polystichum proliferum and *P. vestitum* in the same greenhouse along with several sub-tropical *Blechnum* species. Outside, two shelves of containers house a large collection of *Equisetum* species and hybrids. Hardy ferns grow around a small pond and on a rockery, while everywhere throughout the garden grow ferns I had only read about in books: obscure *Asplenium* species and hybrids, adiantums, a beautiful scaly *Polystichum* from the Himalaya, pyrrosias and polypodiums. The front garden is also full of hardy ferns shaded by large Chusan palms (*Trachycarpus fortunei*).

A splendid tea was provided by Linda which completed a marvellous day which the whole group thoroughly enjoyed.

Wolves Wood, Hadleigh, Suffolk and Beth Chatto Gardens, Elmstead, Essex – 22 August

Marie Winder

Wolves Wood (60/054436) is an RSPB Nature Reserve 1½ miles east of Hadleigh. Eighteen of us plus two very young future members met Neil Griffiths, the Warden, at the entrance to the reserve. He told us that the wood was about 90 acres in area and was relatively wet for this part of East Anglia being situated on heavy clay. He said that there could be up to 42 ponds in the reserve depending on rainfall but there were 28 at the time of our visit, some having great crested newts in them. The wood is very ancient, probably having existed continuously since the last Ice Age. Coppicing has been carried out for hundreds of years, mainly on hazel, hornbeam, birch and ash. He told us that wood anemone, early purple orchid and the rare violet helleborine could be found in the wood, also herb paris and yellow archangel, both indicators of ancient woodland. The Midland hawthorn (*Crataegus laevigata*), which has two-seeded berries, is also present.

We set off into the wood to look for ferns and other items of interest. The first fern found was a specimen of *Dryopteris filix-mas*. Later we came across a mixed group of ferns: *D. filix-mas* again, together with *D. carthusiana* and *D. dilatata*. Typical of many woods in this part of East Anglia, there were no large stands of ferns nor many species, just a few small groups or single plants. These three species were all the wood had to offer. However, we saw many other plants including guelder rose, meadow sweet, tormentil, welted thistle, perforate St John's wort and gipsywort, with reedmace growing round some ponds. The warden also pointed out various features of the fauna: migrant hawker dragonflies, a bat roost in a hollow ash, the site where the rare great gray slug was first found in the wood and, of course, various birds including chaffinch, great, blue, longtailed and marsh tits and evidence of woodpecker activity.

At lunch time we moved to the Beth Chatto Gardens and Nursery at Elmstead Market where we were joined by four more members. Here, after a picnic lunch, we were met by Beth Chatto herself who showed us round her gardens. Firstly we saw her gravel garden, a recent development containing a wonderful range of plants suitable for growing in dry places, then a screened tunnel in which she grew special plants such as *Arisaema*, orchids and several less common ferns. Much to Beth Chatto's delight, members, especially Tim Pyner, were able to identify several ferns for her: *Pseudophegopteris levingei, Onychium japonicum* and *Cystopteris fragilis*. The latter had, until our visit, only been known by Beth Chatto as 'The Dressmaker's Fern' since the friend from whom she had received it had always called it this, having been given it in her turn by her dressmaker.

We were then taken into the main garden – a beautiful valley set with mature trees where Beth Chatto has created a series of lakes, and beds containing a wide range of

plants including a number of ferns. These were mainly *Polystichum setiferum* and its varieties and species of *Dryopteris* and their varieties. There were also many *Asplenium scolopendrium* and several groups of polypodies. Near her bungalow was a good specimen of *P. setiferum* 'Plumosum Bevis' and a patch of *Blechnum penna-marina*. The lakes were surrounded by various marginal aquatics including *Onoclea sensibilis*, *Osmunda regalis* and a very good *Matteuccia struthiopteris*. Beth Chatto was in her element discussing details and identities of the various ferns and other plants and was reluctant to depart at about 3 p.m. when she was summoned back to more humdrum matters in the office!

We continued to explore the garden, especially the newly developed woodland area in which are various ferns including *Cystopteris bulbifera* and *Woodwardia unigemmata* (complete with large bulbils) while under a *Paulownia* tree was a fine patch of *Adiantum venustum*.

Our visit was completed with a sortie to the excellent nursery to buy plants and we left, just as the gates were being closed for the night, with the feeling that further visits in different seasons were essential in order to do the gardens justice, as there was so much to see and enjoy.

Hyde Hall RHS Garden and Ausfern, Writtle, Essex – 27 September

Peter Richardson

Fifteen members arrived at Hyde Hall, an RHS garden near Chelmsford, at the Sunday opening time of 11.00, charged with the task of putting correct names to all the ferns growing in the garden for the Garden Superintendent. Looking first in the main greenhouse, only *Dicksonia antarctica* and *Blechnum cordatum* (syn. *B. chilense*) were found, plus a *Woodwardia radicans* outside in a pot. The group then progressed all round the gardens and the two other greenhouses, deliberating over each fern in turn. They turned out to be mainly native species and cultivars. (The East Anglian group shows a sharp divide between those who delight in cultivars and those who are revolted by them!)

After lunch the group moved on to an appointment with the proprietor of Ausfern, Neil Pike, at the glasshouse which they currently use close to Writtle Agricultural College, where we were made welcome with sherry and snacks. Ausfern specialise in salvaging *Dicksonia antarctica* from forest which is being logged, at first in Tasmania and now in Victoria. Neil gave us an illuminating talk on how the business came to be set up - a long and convoluted tale – and the many setbacks he suffered. Not a horticulturalist by training, while on a trip to Tasmania he was struck by the sight of tree-ferns piled in enormous heaps which were being wasted as virgin rainforest was clear felled. He was initially given permission by the forestry companies to take away a truckload of tree-ferns free of charge for selling at his father's nursery. The scale of the operation rapidly expanded, and many other people moved into the business, some less scrupulous about where they obtained their tree-ferns. Because of this unregulated proliferation, Neil Pike and some other ecologically-minded acquaintances formed the Australian Treefern Association. Unfortunately, the publicity generated about the scale of deforestation in Tasmania did not endear him to the state government and the forestry companies. As a result there is at present a moratorium on the export of tree-ferns from Tasmania, which means that they are once more being pushed into piles and burnt as the forest is felled; a return to the position which existed before Neil started his salvage operation.

At their current premises, an acre of glass contains a potted forest of ninety thousand tree-ferns, their bright green fronds intermingling into an impenetrable canopy. This seems a lot, but all those taken for horticultural use in Australia, Europe and the US still only represent 5% of the tree-ferns being uprooted as the forests are felled. Astonishingly, they are now shipped here in refrigerated containers, at around –5°C, to stop them leafing up during the 11-week journey from Australia. When stood upright in the glasshouse they produce complete new crowns in a few weeks, even if not potted up. Their cultural requirements were discussed; apparently *D. antarctica* can be found naturally in swampy valley bottoms and will tolerate having its feet in water, unlike any other temperate tree-fern. In any case they definitely benefit from frequent and generous water application, particularly in the South-East, which is where most losses are sustained. The glasshouse manager now uses a very low-nutrient regime for them, having lost many to overfeeding. As a rooting medium, anything organic was recommended, particularly tree leaf-mould.

Ausfern is in the early stages of establishing a European branch near Biarritz, in one of the few parts of Europe where the climate really does suit southern Australian ferns, and from there they plan to market the same range of some eighty Australian ferns currently offered from their sister operation in Melbourne, Fern World.

After the talk, BPS members disappeared under the fern canopy, bent over double and shuffling up and down the rows in a competition to see who could spot the most epiphytic ferns sprouting out of the fern trunks. The common ones proved to be *Rumohra adiantiformis*, *Microsorum diversifolium* and *Hymenophyllum venosum*, but a few *H. flabellatus* and *Tmesipteris tannensis* were spotted as well. We emerged at the end of the afternoon with armfuls of specimens for purchase – *Blechnum*, *Polystichum* and *Calochlaena (Culcita)* as well as *Dicksonia*. We were most grateful to Neil, to his niece, who kindly provided the refreshments, and to glasshouse manager Ed Pearman for giving up their Sunday afternoon to receive us at the nursery.

End of Season Meeting, Barrow, Suffolk – 1 November — Barrie Stevenson

At the time of writing we are looking forward to our traditional autumn get together at the home of Marie and Geoff Winder at Barrow near Bury St Edmunds, where our programme will include a slide-show of ferns of both France and Bali, a presentation describing *In Vitro* Culture of Spores and a viewing of the BPS fern video. There will also be a display of Victorian and Edwardian fern books, ferny artefacts and photographs and a fern bring-and-buy stall, thus rounding off a most enjoyable season.

NORTH-WEST

Hawkshead, Southern Cumbria (34/353980) – 20 June — Peter Hindle

The variety of habitats explored on this meeting included a churchyard, woodland and open fellside up to a height of 200m. Rainfall is high and the soils mainly acid. Nineteen members attended.

Close to the car park, a high stone wall provided an attractive community of *Asplenium trichomanes*, *A. scolopendrium*, *A. ruta-muraria*, *A. ceterach* and *Polpodium interjectum*. In the steeply sloping churchyard members were very interested in several clumps of *Cystopteris fragilis* larger than any of us had seen previously. Kaye once reported a variety which he named *C. fragilis* 'Crenatum' but no-one could be definite about this.

We then ascended fairly steeply through *Dryopteris filix-mas, Athyrium filix-femina, Polypodium interjectum* in walls and some good specimens of *Oreopteris limbosperma*. As the path levelled out we came to more open ground where the rather wet path was lined with *Blechnum spicant* in profusion. Goosey Foot Tarn failed to provide us with *Thelypteris palustris* though it has been reported there. *Dryopteris carthusiana* was found nearby.

Lunch was taken here and we then went on through more woodland and crossed Hawkshead Moor seeing plenty of the previously mentioned plants. The next piece of woodland additionally gave us *Gymnocarpium dryopteris* and *Phegopteris connectilis* close together, with the latter, in some cases, under beech trees. Close to the road at the base of a wall was found a single plant of *Asplenium scolopendrium*. We were lucky with the weather as rain did not fall until we were refreshing ourselves back in Hawkshead.

(The full five mile walk route is in Bowker, T., *Coniston and Hawkshead Walks*. p.37. Dalesman Books.)

Holme Crag Garden, Witherslack, Cumbria (34/423837) – 11 July

Peter Hindle

This private four acre garden, at a height of 40m above sea level, has woodland, including an ancient oak, rocky outcrops, a bog and a pond. It has been developed over the last 24 years by the owner, Mr J. Watson, as a wildlife and bird sanctuary. The soils are, in general, very acid. Twenty members attended.

The steeper areas and the patches of woodland have been largely left unimproved and here we found stands of *Dryopteris filix-mas* including 'Crispa cristata', *D. dilatata, Blechnum spicant, Athyrium filix-femina, Asplenium scolopendrium* including some 'Crispum', *A. adiantum-nigrum, Polypodium interjectum* and *Phegopteris connectilis*. The pond provided *Equisetum fluviatile, E. arvense* and good clumps of *Osmunda regalis*. The garden provided many 'non fern' distractions and it took Les Dugdale to call us to order and lead us to the fern collections situated close to the house and in heavy woodland shade. A complete list would be very long but members were particularly impressed by fine examples of *Polystichum setiferum* 'Bevis', *Blechnum penna-marina* 'Alpina', *Asplenium scolopendrium* 'Laceratum', *Cyrtomium fortunei* and *Athyrium filix-femina* 'Frizelliae'.

Lunch was taken in Allithwaite village (34/387766) where we then visited the nearby garden of Les Dugdale for the afternoon. In addition to the large collection of British ferns our attention was especially engaged by fine specimens of more unusual plants, for example *Cystopteris bulbifera*, a lime and shade loving plant from Canada and *Blechnum tabulare* from the Falkland Islands. In the greenhouses and cold frames *Polystichum polyblepharum, Adiantum pedatum* 'Imbricatum', *A. raddianum* (syn. *A. cuneatum*), *Phlebodium aureum* and *Davallia fejeensis* were particularly admired.

Les and Mildred provided us with afternoon tea and on departure each member was given a ferny gift, for which many thanks. This excellent day had been planned for us by Jack and Majorie Garstang.

Johnny's Wood, Borrowdale (leader: M. Porter) and the Old Railway, Keswick, Cumbria (leader: Nan Hicks) – 16 August

Mike Porter

Threatening clouds and a hint of rain in the wind met the eleven BPS members who gathered in the car park at Seatoller (35/245138) to examine the ferns of Johnny's

Wood, a famous and extensive oak wood near the head of Borrowdale. The first interesting ferns were, in fact, found little more than 100 yards from the car park and consisted of a typical Lakeland grouping: *Oreopteris limbosperma, Athyrium filix-femina, Dryopteris filix-mas* and, on the wall behind, *Cryptogramma crispa*. All were in excellent condition.

The path now led into the wood itself which, somewhat surprisingly, is not particularly fern rich at this western end with only *Dryopteris dilatata* being at all frequent, though there was a scattering of *Polypodium vulgare*, much of it growing on the lichen-encrusted trunks of the oak trees. Further on, however, just past the hamlet of Longthwaite, the path swings back towards the west and climbs steeply through moist, craggy woodland and here ferns were found in profusion. *Hymenophyllum wilsonii* was growing on wet rock faces, *Phegopteris connectilis* was widely distributed both in hollows and on slopes, *Oreopteris limbosperma* was abundant along the edges of the wood, one patch of *Gymnocarpium dryopteris* was noted by the beck and various members of the *Dryopteris* group were seen along the paths. Interestingly, many ferns had lost parts or all of their fronds, the result, as far as we could judge, of grazing by deer but, equally, a large number of plants had fresh green fronds, suggesting considerable regrowth in this the wettest of recent summers. As if to emphasise the point, the rain which had held off all morning now began to fall once again as we made our way back to the cars.

Fortified by a nourishing pub lunch in Keswick, the group, now led by Nan Hicks, set out for the second destination of the day and there followed a brisk walk from Keswick former railway station (35/272237) along a disused section of railway line in the direction of Penrith. Unfortunately the rain now began to fall heavily and it was a rather wet group which arrived at the afternoon's objective, a rocky railway cutting whose sheer sides were thickly clothed with a variety of ferns. Here *Dryopteris filix-mas, D. affinis, Athyrium filix-femina* and superb fronds of *Asplenium scolopendrium* and *Polystichum aculeatum* were all noted, while on steep slopes below the craggy sides of the cutting there were several healthy colonies of *Phegopteris connectilis*. High up and out of reach was what appeared to be a small colony of *Gymnocarpium dryopteris*. This was felt to be an excellent site, well worth the walk and attractive even in the pouring rain, which gradually eased as we made our way back to Keswick.

AGM, Holehird, Windermere, Cumbria – 10 October — Jack Garstang

Spectacular scenery, sunshine and lusciously colourful gardens greeted thirty-one members and our guest speaker for our fifth AGM. Following the financial business, the meetings reports for 1998 reflected another successful season, a special vote of thanks being given to Mike Porter for all the effort he put into organising the splendid four day national meeting at Coniston. The many suggestions put forward for the 1999 meetings should ensure an engaging and varied programme.

We were fortunate in having the President of the BPS, Martin Rickard, as our speaker and he gave us a superb illustrated talk on the finer scientific and taxonomic points of cultivars of European *Polypodium vulgare* agg. The three fern competitions drew a good response in the form of some very fine plants from the members. The tricky 'Fern word' competition was solved by Jack Bouckley, who now has the unenviable task of compiling one for next year. Refreshments were followed with displays of photographs, ferns and fossils. The plant sale organised by Alec Tate was once again a treasure-trove of unusual plants and besieged by eager buyers.

CORNWALL

Rose Murphy

The Lizard, West Cornwall – 11 February

This year we were able to hold our first meeting in February, the mild weather being a marked contrast to the cold, cold spring of 1997. Five of us met at the National Trust car park at Kynance Cove on The Lizard. Walking north, we looked first at the large serpentine outcrop immediately to the west of the path (10/688134). This outcrop is noted for its assemblage of unusual flowering plants and in the numerous rocky crevices there were tiny plants of *Asplenium adiantum-nigrum* with very narrow fronds. Such a morphology is thought to be induced by the heavy metal content of the serpentine and a contrast was provided by more normal forms growing nearby. *Polypodium interjectum* was also present.

Crossing the stream at Kynance Gate, we turned inland for a short distance to search the slopes of other serpentine outcrops (10/687137), this time for *Isoetes histrix*. Population numbers of the land quillwort vary from year to year as the plants sometimes remain dormant, so although 35 plants were counted at the first site nearest the Gate, there were none around the next outcrop, this despite their abundance in previous years. Further searches were then made to the west. Here, in the extremely short turf around an extensive outcrop (10/684135) the quillwort was present in abundance, while to the north, in a tiny area of rabbit-grazed turf (10/684136) we found another 27 plants.

Lunch was followed by a drive to a small parking area at the side of the road north-west of Traboe Cross (10/738212). Still continuing the search for *Isoetes histrix* which was the main reason for the meeting, we walked across rough heath to look for a small disused quarry where the *Isoetes* had last been recorded 12 years ago. After struggling through a quagmire(!) the quarry was found and so was the *Isoetes* (10/734215). The population was small – just 12 plants – but they were of varying size and age, so would seem to be safely established. More *Asplenium adiantum-nigrum* and *Polypodium interjectum* were seen and one plant of *Asplenium marinum* with fertile fronds up to only 2cm long and amazingly about five miles from the sea.

The Gover Valley, near St Austell, East Cornwall – 5 August

Nine of us met on the west side of the Gover Valley at the start of the track (10/987538) that led down to the Gover Stream, often called the White River. The track ran down over china clay waste, largely revegetated except for small patches of open sandy quartz gravel. *Pteridium aquilinum*, the only fern at this point, was abundant. But lower down, as we passed through a secondary growth woodland of *Quercus robur* and various willows, ferns became abundant both within the wood and on the bank of the stream that ran alongside the track – *Athyrium filix-femina*, *Blechnum spicant*, *Dryopteris aemula* (at 10/993538), *D. dilatata*, *D. filix-mas* and *Asplenium scolopendrium*. Two different morphotypes of the *Dryopteris affinis* group were seen and their characters demonstrated; *D. affinis* subsp. *affinis* was abundant but there were few plants of subsp. *borreri*.

On the return, a diversion was made to some china clay waste and an associated pool, but though we saw *Epilobium brunnescens* (New Zealand willowherb) and *Filago minima* (small cudweed), both typical of china clay, there were no ferns, not even the horsetails that can so often be found in wet areas at the base of the china clay tips. However, one determined member of the group went searching for *Hymenophyllum*

tunbrigense and *Oreopteris limbosperma* – there were old records for these in the area. The plants were refound, the filmy fern covering granite boulders overhanging the shaded part of the river (10/993541) and the *Oreopteris limbosperma* on a north-facing bank by a track near the ford (10/991547).

After lunch, in brilliant sunshine, the group walked down a sheltered lane towards this ford, exploring gravel tracks, revegetated china clay waste, hedgebanks and walls, adding *Asplenium adiantum-nigrum, A. trichomanes* subsp. *quadrivalens* and *Osmunda regalis* to the list of ferns seen during the day.

A few days later, another member of the group returned to the valley, finding *Hymenophyllum tunbrigense* in abundance (10/993539), growing both over granite boulders and on the trunks of fallen trees that were hanging over the water.

St Dennis Junction, by Goss Moor, East Cornwall – 16 September

Seven of us attended this meeting led by Dr Chris Page and Ian Bennallick who has long studied the area. St Dennis Junction (10/934598) is adjacent to the western side of Goss Moor, a National Nature Reserve. It has been successively tin-streamed and worked for gravels and, until recently, was the site of a concrete block works. The whole area is criss-crossed with tracks and railways (two now dismantled) and has been used as a dump. As a result there is an absolute mosaic of habitats – willow carr, open water, seasonal pools, dry rough grassland, scrub and disturbed, open, stony ground often with impeded drainage – supporting a wide range of pteridophytes.

Athyrium filix-femina was found everywhere, but *Blechnum spicant, Dryopteris affinis* subsp. *affinis* and *D. filix-mas* were only occasional. *D. dilatata* grew on the drier hummocks within the *Salix* carr and *Polypodium* x *mantoniae* was recorded on one of the willows with one parent, *P. interjectum* (10/936599). *Osmunda regalis* was abundant and Chris Page located one plant of *Oreopteris limbosperma* growing quite unexpectedly in this rather shaded habitat (10/937595).

Ian Bennallick guided the group along a flooded trackway to see a very luxuriant population of *Pilularia globulifera* at 10/939596. After a picnic lunch on a sunny bank, we continued to look at the extensive stands of horsetails. Three species were abundant: *Equisetum fluviatile, E. palustre* and *E. telmateia. E. arvense* occurred at intervals. The first hybrid seen was *Equisetum* x *rothmaleri* (*E. arvense* x *E. palustre*) growing by the branch line to Newquay, (10/933599). Then, alongside a wet track, both *Equisetum* x *dycei* (*E. fluviatile* x *E. palustre*) and *Equisetum* x *litorale* (*E. arvense* x *E. fluviatile*) were found, growing very close together at 10/939596. *E.* x *rothmaleri* and *E.* x *dycei* were first records for Cornwall, and a fourth hybrid, involving *E. telmateia*, was suspected. It was a most amazing day and as Chris Page said, the combined factors of disturbed ground with both calcareous and siliceous substrates affecting the ground water seemed to be producing "one of the highest concentrations of *Equisetum* hybrids in the country". Our thanks were extended both to Ian, who added *Dryopteris carthusiana* to the list (10/935597) and to Chris Page who so carefully demonstrated the characters of these horsetails.

HORTICULTURAL SHOWS

BBC GARDENERS' WORLD LIVE! – 10-14 June

A.R. Busby

For a second year I decided to stage a display of hardy ferns for the Society at the National Exhibition Centre, Birmingham. This huge show of nurseries and garden sundries suppliers attracts thousands of visitors each year and is an excellent venue to display to the gardening public our Society's aims and activities.

The stand was furnished by eighteen pots of both British and hardy foreign ferns. I was far from satisfied with the final arrangement, largely because I used virtually every pot fern I had at the time and one or two were not in the best of condition.

Last year the specialist societies stands were placed on the periphery of the show opposite the plant crèche. This year we were placed in an area to the left of the main entrance and as a result enjoyed the attention of far more visitors. Many Society application forms were given out and it is most gratifying to see several new members joining as a result.

I am indebted to Sue Seary, Alan Ogden and Ray and Brenda Smith for manning the stand on the days when I was unable to be there and to them I extend my sincere thanks.

SOUTHPORT FLOWER SHOW – 20-22 August

A.R. Busby

It was very gratifying to see more entries in most classes this year, and with such good fern growing weather the quality of the exhibits was much better. The exception was the class for *Asplenium scolopendrium*; many of the exhibits had a rather yellowy, anaemic look to them, a condition to which 'scollies' are prone. Care with the choice of compost and some judicious feeding should avoid jaundiced looking scollies.

Some exhibitors still make very simple mistakes by misinterpreting species and varieties. It is most depressing to have to disqualify exhibitors simply because their exhibits are 'not according to schedule', knowing the time and trouble they have gone to to grow, transport and stage their entries. Presentation has improved dramatically over the last ten years or so and careful presentation pays dividends.

For me, I think the best fern in the show this year was a most attractive *Adiantum capillus-veneris* 'Cornubiense'. Not the biggest fern exhibited but a real delight to the eye.

This years judge was A.R. Busby. The prize winners are listed below.

Class 6 Individual Championship: Four hardy, two greenhouse and two foreign hardy ferns: 1st Mrs E.A. Gibbs, 2nd P. Clough, 3rd W.W. Howarth (3 entries)

Class 7 Three Hardy British Ferns (dissimilar): 1st L. Kirkham, 2nd P. Clough, 3rd H.C. Shepherd (3 entries)

Class 8 Three Hardy Foreign Ferns: 1st Mr & Mrs B. Russ, 2nd A. Lovell, 3rd H.C. Shepherd (5 entries)

Class 9 Three *Polypodium* (distinct varieties): 1st L. Kirkham, 2nd Mr & Mrs B. Russ (3 entries; 1 disqualification)

Class 10 Three *Polystichum* (distinct varieties): 1st L. Kirkham, 2nd Mrs E.A. Gibbs, 3rd W.W. Howarth (5 entries)

Class 11 Three *Athyrium*: 1st L. Kirkham, 2nd P. Clough, 3rd H.C. Shepherd (4 entries)

Class 12 Three *Asplenium* (excluding *A. scolopendrium*): 1st Mr & Mrs B. Russ, 2nd H.C. Shepherd, 3rd W.W. Howarth (4 entries)

Class 13 One British Fern (any kind or variety): 1st L. Kirkham, 2nd Mr & Mrs B. Russ, 3rd H.C. Shepherd (6 entries)

Class 14 One Greenhouse Fern: 1st Mrs E.A. Gibbs, 2nd L. Kirkham, 3rd J. Worthington (4 entries)

Class 15 Three *Asplenium scolopendrium* (3 distinct varieties): 1st L. Kirkham, 2nd W.W. Howarth, 3rd H.C. Shepherd (5 entries)

My thanks to Lawrence Kirkham, Ray and Brenda Smith and Libby Gibbs for assisting with the manning of the Society stand. We are always short of help on the stand so if any members have just a few hours to spare I would be very pleased with any offers of help.

Some Southport Flower Show reminiscences

This year marked my twenty-fifth consecutive Southport Show and such a milestone made me stop to consider how the show has changed over the intervening years and the many pleasures and pitfalls that have occurred.

1973 was my first show and it introduced me to fern growing, fern growers and fern growers' idiosyncrasies. Firstly, in spending time with Jimmy Dyce, Bernard Hayhurst, Norman Robinson, Fred Jackson, Noel Brookfield and Reg Kaye, you could not help but imbibe the fern growing ambience. There were others who called in from time to time but these were the 'regulars' and from them I learnt much. For example, I quickly learnt about 'imbibing'. It appeared that if you did not know anything about whisky you had no business talking about ferns. I 'lied' about my liking for whisky but explained my absence from visits to the beer tent by (a) 'volunteering' to look after the fern stand and (b) explaining that my imbibing was restricted to the hours after sunset. Fred thought my first reason very noble and my second 'weird'.

The fern classes looked very different in those days. Class Six was for a stand of ferns 'displayed naturally' on an area of 100 square feet and not more than six feet high. This was usually contested by Reg Kaye and Noel Brookfield although Noel's son John had a go from time to time after Reg started judging. The judge that first year was Reg Kaye, W.G. MacKenzie having retired the previous year. I value the time Reg kindly spent with me looking around the competitive displays and explaining to me why he had merited one exhibit over another and how important presentation was in gaining that extra point that gave one exhibitor the edge over another. Noel Brookfield's exhibits were remarkable but his presentation was dreadful. He had large terracotta pans of polypodiums and gymnocarpiums about two feet in diameter. These he tilted on house bricks to 'catch the judge's eye'. In reality you could not miss them or the house bricks. I recall him exhibiting a fern grown in a four inch 'long tom' – I cannot remember what the fern was, but I do recall it being perched on top of a column of four inch pots about 20 inches high with no attempt to hide them. I also recall the face to faces about the results between Reg as Judge and Noel as Exhibitor. An experience I was to face as a judge some years later but thankfully not with Noel.

Bernard Hayhurst was wonderful company with a wicked sense of humour; propriety prevents me from relating many of them but I cannot help but smile even now at some of his stories. One involved the Rev. E.A. Elliot, (Hon. Sec. 1951-59) who apparently would sit on the stand, reading glasses perched on the end of his nose, reading a copy of a church magazine which concealed a cowboy adventure book. Visitors to the show would see the word 'pteridological' and look at the Reverend's dog-collar and ask if it was a new religion.

Norman Robinson was a small, kindly man who had a real passion for ferns. He gave me one or two from time to time. He never enjoyed robust health and I recall his last visit to us while he was dying of cancer. He came in, walking with great difficulty, to give his precious fern books to Jimmy Dyce for the booksales. When he left we all knew we would not see him again. I am so grateful that I was able to meet him and enjoy his company.

Some twenty years ago Jimmy and I began using the Roundtrees Restaurant in Lord Street for our evening meals. This has become a regular event and the proprietors expect us every year. We formed an informal 'Roundtrees Dining Club' whereby Jimmy and I listed all the members who dined with us over the years. If my memory serves me correctly, to date the list looks like this: A.R. Busby, J.W. Dyce, R. Kaye, R. Cartwright, R. & R. Coughlin, L. & J. Dugdale, B. & A. Russ, D. Kershaw, J. Bouckley, J.A. Crabbe, B. Bruty, R. & B. Smith, M. & J. Collins, M. Nimmo-Smith, E.A. Gibbs and L. Kirkham. The walls of that restaurant have reverberated to much 'fern talk'.

Some of my less pleasant memories of Southport involve bad weather: howling gales which have threatened the marquee with disaster, the frequent flooding, now thankfully a thing of the past, being cooked and chilled, sometimes on the same day! However, all these are mere discomforts compared with the night our stand was raided for fern books. Several were stolen, mainly Jimmy's prized copies of fern books given by and signed by the authors. Jimmy was quite devastated and it marred that particular show. The police were involved but to the best my knowledge none of those books were ever recovered.

The Society has had a fern stand at every Southport Show since 1926 and long may it continue to do so. It is the only major show to provide competitive classes for ferns. Although we do not enrol many new members at such shows I feel that they are important as 'shop windows' to display our Society and its activities to the gardening public.

Variation in cultivated Polystichums *by* J.W. Dyce

The above book by Jimmy Dyce was left in manuscript form and is being prepared for publication. The undersigned editors are keen to illustrate the book, as Jimmy had hoped it would be, and would like to see any photographs, transparencies or prints, in colour or black and white, of any named variety (i.e. cultivar) of *Polystichum*. Please note, we do not want photos of unnamed plants, unless they are (a) of high quality, and (b) you have the plant growing and could send a frond either with the photo or later in the season. You would retain the copyright of such photos and they would be returned to you as soon as possible. You would also receive a free copy of the book if the photograph(s) is/are used!

If you have a good plant in cultivation but not the equipment/skill to photograph it, please let us know as soon as possible and we will discuss with you the possibility of someone visiting you to take a picture in due course.

Please contact Jennifer Ide (address below) as soon as possible and send photos by the end of February at the latest, so we can assess the possibility of making this book well illustrated.

Clive Jermy
Martin Rickard
Jennifer Ide, 42 Crown Woods Way, Eltham, London SE9 2NN. Tel. 0181 8503218.

SECRETARIAL NOTES

Please note:

The BPS Honorary General Secretary is now Miss Jennifer M. Ide,
42 Crown Woods Way, Eltham, London SE9 2NN.

ANNUAL GENERAL MEETING 1999, PRELIMINARY NOTICE – The 96th AGM will take place on Saturday 20th March 1999 at Reading University at 2.00 p.m.

COMMITTEE VACANCIES – In accordance with paragraph 3, section 3 of the Society's Constitution, two vacancies will occur due to the retirement of the two longest serving Committee members. Nominations are invited from Society members to fill these vacancies at the Annual General Meeting in 1999. The names of the nominees, proposers and seconders, together with a letter from the nominee indicating his/her willingness to serve, should reach the General Secretary by 20 February 1999.

SUBSCRIPTIONS 1999 – Members are reminded that subscriptions for 1999 are due on the 1st January 1999 and should be paid to the Membership Secretary, Mr M.S. Porter, 5 West Avenue, Wigton, Cumbria CA7 9LG. Cheques should be made payable to 'The British Pteridological Society'. Current rates are given inside the front cover. **Standing Order** forms are available from the above address. Payment can be made by **Credit Card** – see renewal form.

PUBLICATIONS BY AIRMAIL – Our journals can be sent by airmail to overseas members, provided they advise the Membership Secretary and pay an additional subscription to cover airmail postage. See inside front cover for rates.

ROYAL HORTICULTURAL SOCIETY – Our Society is affiliated to the RHS, enabling a limited number of members to enjoy certain privileges in connection with RHS Shows, competitions and services.

GREENFIELD FUND – This fund, set up as a memorial to one of our Society's great fern growers, Percy Greenfield, is used to finance approved research projects, helping with the cost of necessary equipment, books and travel expenses. Percy Greenfield's interest leaned very much towards the non-scientific side of our activities and it is felt that he would want this taken into consideration when decisions are made. Workers eligible for university or college grants and similar support are not therefore eligible for help from the fund. Members wishing to benefit from this memorial fund should apply to the trustees via the General Secretary.

CENTENARY FUND – This fund is used to promote the study of all aspects of pteridophytes – horticultural, scientific and educational, whether by amateurs, students or professional pteridologists. As such its scope is much broader and more flexible than the Greenfield Fund. Anyone wishing to avail themselves of this fund should contact the trustees via the General Secretary.

SPECIAL INTEREST GROUPS – There are three Special Interest Groups. For further information please send a stamped addressed envelope to the organisers:

Tree-ferns: Prof. A.C. Wardlaw, 92 Drymen Road, Bearsden, Glasgow G61 2SY.
Foreign Hardy Ferns: A.R. (Matt) Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD.
Filmy Ferns: S.J. Munyard, 234 Harold Road, Hastings, East Sussex TN35 5NG.

MEMBERS INFORMATION SERVICE – Members often require information and advice on many aspects of Pteridophytes but are reluctant to ask or simply do not know where to obtain help. Queries from members on any aspects of the biology. identification or cultivation of ferns or fern allies should be sent, with three first class stamps, to A.R. Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD.

READING CIRCLE – The Society operates a reading circle for several journals. The *American Fern Journal* is a quarterly publication containing much information for those seriously interested in ferns; it is accompanied by the *Fiddlehead Forum*, which publishes many 'ferny' items of interest to the amateur grower. To receive these journals contact A.R. Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD.

WORLD-WIDE WEB SITE – The URL (address) of the BPS Web site hosted by the Natural History Museum is "http://www.nhm.ac.uk/hosted_sites/bps/". The content should be expanded and updated very shortly.

BACK NUMBERS OF JOURNALS – Our back numbers are a valuable source of information pertaining to most aspects of ferns. A mixed pack of six of our journals is available for just £5 post free to whet your appetite; other back numbers of the Society's journals are available to members at reasonable prices. A full list is available from Pat Acock, 13 Star Lane, St Mary Cray, Kent BR5 3LJ.

BPS VIDEO 'BRITISH FERNS' – This twenty-five minute video shows most of the native British ferns growing in their natural habitats. It demonstrates the wide variety of size and form to be found in British ferns and the broad range of habitats they colonise. Attention is drawn to key identification characters for each species.
The video was funded by Schering Agriculture and the National Museum of Wales. It is available for loan, free of charge, to interested individuals and organisations (UK only). For further details write to the General Secretary enclosing an SAE.

WANTED: ARCHIVIST – The Society requires an archivist to actively maintain and enhance its collection of various archive materials, mainly photos, letters and a few sundry items. Further information from the General Secretary.

WANTED: INDEX COMPILER – How many times have you had to hunt through issue after issue of the *Pteridologist* or *Bulletin* looking for an article on a particular topic, or to search numerous indexes of the *Fern Gazette* to find a certain paper, or wondered if the BPS has held a meeting in a certain area and if so, when?

In order to answer these questions we need:

- An index to volumes 1 & 2 of the *Pteridologist*.
- A cumulative index to the *British Fern Gazette/Fern Gazette* volumes 1-14.
- An index to the *BPS Newsletter* nos 1-10 and *BPS Bulletin* volumes 1-4.

If you think you could prepare or help prepare any one (or more!) of these. we would be very pleased to hear from you. Please contact Miss Alison Paul, Botany Department. The Natural History Museum. Cromwell Road, London SW7 5BD, tel. 0171 938 9497. e-mail: amp@nhm.ac.uk.

IN MEMORIAM

We were sorry to learn of the death of the following long standing members:

Dr Norman W. Runham who joined the Society in 1979.
Mr Tony Kelly who joined the Society in 1962.
Mr Gerard J. Proper from the Netherlands who joined the Society in 1981.

ANNUAL GENERAL MEETING 1998

MINUTES of the 95th Annual General Meeting held at the Waterhead Hotel, Coniston, Cumbria on Saturday 12th September 1998 at 2.00 p.m.

IN THE CHAIR: The President, M.H. Rickard.

PRESENT: R.G. Ackers, P.J. Acock, E.J. & R. Baker, E.S. Beamish, A.R. Busby, E.A. Colville, M.J. & L.I. Craddock, T. Craddock, J. & M. Garstang, Dr M. Gibby, Dr N.J. Hards, P. & J. Hindle, K.H. & D.M. Holly, J.M. Ide, L. Kirkham, A. Leonard, B. Porter, M.S. Porter, P.H. Ripley, R.J. & B. Smith, R.W. Sykes, R.N. Timm, A.C. Wardlaw, B. Wright.

ITEM 1 – APOLOGIES FOR ABSENCE: J.H. Bouckley, J.M. Camus, R.J. Cooke, J.A. Crabbe, A.C. Jermy, H.S. McHaffie, J.W. Merryweather, R.J. Murphy, M.E. Nimmo-Smith, A.M. Paul, Prof. B.A. Thomas.

ITEM 2 – APPROVAL OF MINUTES: Minutes of the 94th Annual General Meeting held on the 18th October 1997 had been published in the 1997 *Bulletin* and were approved.

ITEM 3 – MATTERS ARISING: None.

ITEM 4 – REPORT OF THE HONORARY GENERAL SECRETARY:

1997/8 has been a year of many changes for the Society but I am pleased to report another successful year in spite of various hiccups along the way. It is my delightful duty to report that His Royal Highness, The Prince of Wales has graciously consented to be Patron of this Society. I know that the Officers and Committee are most grateful for this rare honour and I am sure that I speak for the membership when I express our pleasure that His Royal Highness should take an interest in our activities.

MEETINGS: The Meetings sub-committee are to be commended on having worked so hard to get the 1998 programme arranged in such good time. I have not seen any detailed reports on meetings this year but through conversations with various members and leaders, I understand that meetings have been well attended and most successful. The Meetings sub-committee are always anxious to receive ideas for future meetings and offers to lead them. This may seem a daunting task but it is well worthwhile contacting Patrick Acock directly or the sub-committee via the General Secretary.

REGIONAL GROUPS: I regret that I have been unable to organise a programme for the Midland Group and that I shall not be able to continue to lead it. I have received a report from Rose Murphy who leads the Cornwall Group in which she reports that although only small in number, they continue to hold very successful meetings with an average of about 15 attending. Other groups covering the North-West, North-East, South-East and East Anglia continue to hold very successful meetings and members are encouraged to support them. Details of their leaders can be found in the *Bulletin* and on the Membership cards.

MEMBERSHIP: One of the changes this year was the retirement of Alison Paul as Membership Secretary, a post she has filled since 1985. Alison organised a very smooth handover to Mike Porter who has taken up the burden enthusiastically. Mike informs me that we have had 29 resignations and 75 members appear to have lapsed but we hope that many will renew their membership when they receive a further reminder. We have enrolled 60 new members during the year. Our membership total stands at 785.

PLANT AND SPORE EXCHANGE SCHEMES: The Spore Exchange was taken over by Barry Wright during April and I am pleased to include a brief report from him: After a shaky start the Spore Exchange went ahead with an average turn around of ten days. To date there have been over 79 requests for spores. Spores are now in short supply and we request that donors should send any spores in as soon as they can. Even what might be classed as common species are running out fast. We have a number of ideas to streamline the system and hope that the next distribution will be less of a scramble and will enable members to sow their spores at a more appropriate time. (BW) We owe a debt of thanks to Margaret Nimmo-Smith for her painstaking efforts to maintain and develop the spore exchange over the last ten years. I re-emphasise Barry's request to send in a constant supply of fresh spores to keep the Spore Exchange going.

The Plant Exchange Scheme continues to be run most successfully by Ray and Brenda Smith. I know that they would want me to remind you that you do not have to have plants to offer in order to participate in the Scheme.

MERCHANDISE: Mick and Linda Craddock report an increase in sales of 39% for 1997, however, comparing 1998 sales so far, they report a drop of about 31%. I think it is most unlikely that everyone has Society tee-shirts, sweatshirts and badges, etc., so I urge everyone to peruse the Merchandise list and order whatever takes your fancy.

BOOKSALES: Steve Munyard reports that the Society's Special Publications sell slowly, with J.W. Dyce's book on hardy fern cultivation being the most popular item. Secondhand and new fern books continue to sell at a steady rate but there is little profit to be made at the moment. Few really interesting titles have been available this year.

SPECIAL INTEREST GROUPS: The Foreign Hardy Ferns Special Interest Group have not received a newsletter this year; however, some copy is to hand and I hope to produce a Newsletter before the end of the year. The Tree-fern Special Interest Group was started by Martin Rickard in 1995 and now has 27 members, mainly in the UK but with one member in each of Australia, France, Germany, Ireland and the United States. Four Newsletters have been issued and the fifth is due to appear shortly. The organiser is now Alastair Wardlaw to whom enquiries and contributions should be addressed. I have not received a report from the Filmy Fern Group. Any members wishing to join these groups should contact the respective leaders. Their names and address can be found in the *Bulletin*.

COMMITTEE BUSINESS: Amongst the many things being discussed by the Committee over the last year is a forthcoming book by the late J.W. Dyce on British *Polystichum* varieties. This was a subject very close to Jimmy's heart and by all reports, it is something to look forward to. There are plans for an international symposium to be held in 2001 on the subject of 'The Threat to the Fern Flora Worldwide'. It is hoped that it will attract delegates from all parts of the world. The Committee are still exploring the possibility of registering our Society as a charity which would bring many benefits. The timing of the Society's annual general meetings has been reviewed; in future our AGMs will be held in late March. As members will realise from a flyer with the last *Bulletin*, there are plans for a Society meeting in New Zealand, an exciting venture.

As this is my last report to the membership, may I take this opportunity to thank all Committee members who have given me their support over the last twenty years and my sincere appreciation to my fellow Officers and past Presidents for their encouragement, support and the much needed chiding and chivvying from time to time. Hopefully it has kept me pointing roughly in the right direction.

This Society has come a long way since that first meeting of a handful of enthusiasts in Kendal on 23rd September 1891. It has become an internationally recognised body capable of forging new ideas and organising symposia on all aspects of pteridology. It has seen its leading light, J.W. Dyce, nationally honoured and now it has been graciously honoured with Royal Patronage. Achievements far beyond the aspirations of our founding fathers.

In my first Secretary's Report in 1980 I drew the Society's attention to its rapidly approaching Centenary in the hope that the Society would celebrate the occasion accordingly, and we did. We now stand on the threshold of a new century and I am confident that with the example of our past endeavours and with the encouragement and enthusiasm of our present and future members, the Society will go on to even greater achievements.

I will end my last report by wishing the Society and its members every success.

Mr Busby's report was duly approved and the President thanked Mr Busby.

ITEM 5 – REPORT OF THE HONORARY TREASURER: Andrew Leonard circulated a copy of the balance sheet for 1997. This was duly approved and the President thanked Mr Leonard.

ITEM 6 – REPORT OF THE MEETINGS SECRETARY: P.J. Acock reported that the 1997 programme had been transitional, consisting of a skeleton programme put together by the previous Meetings Secretary augmented by two additional meetings. It was presented late and some meetings were poorly attended.
The 1998 meetings had proved successful if numbers attending and compliments paid are a measure of success.
The 1999 programme was circulated in May with the *Bulletin* and two further meetings may be added by the next circular.
By January 1999 the year 2000 programme should be finalised. Opportunities to visit Nepal, the USA and Tenerife have been offered to the Society for future years.
Generally we have little feedback or input on what members desire in the way of meetings. We therefore put together a programme based on an agenda worked out by the sub-committee and offers by members to lead meetings. Any ideas or criticisms will be discussed sympathetically by the sub-committee.

The President commended the Meetings sub-committee for all their diligent hard work to produce details of meetings so well in advance and thanked Mr Acock for his report.

ITEM 7 – REPORTS OF THE EDITORS:
Fern Gazette – Mr Busby read the report received from J.M. Camus. She apologised for not publishing a second issue of the *Fern Gazette* in 1997; she did not inherit from the previous desk editor any manuscripts appropriate for publication. The next issue of the *Gazette* will be published later this year. Some momentum has now been gained with another four new manuscripts at different stages in the system.

Pteridologist – Mr Busby read the report received from Prof. B.A. Thomas in which he expressed his dissatisfaction with his first issue of the *Pteridologist*. Publication was late because of late submission of copy particularly appropriate for this part and a resultant clash with other commitments; next year there would be no such reason for waiting. The colour photographs are not good enough and unless the printer can guarantee better results another printer may be used next year. The typographical errors came about through an unfortunate series of events which hopefully will not be repeated and he apologised for the transposition of captions in one paper.

He was, however, pleased with the articles which he believed to present a good mix. Some papers could not be included but may be retained for the next issue.

Bulletin – Mr Busby read the report received from Alison Paul in which she apologised for the exceptionally late publication of the 1997 *Bulletin*. Very late arrival of some reports, the handing over of membership business and a close family bereavement were contributory factors. A few reports for the 1998 *Bulletin* have already been received; if the other contributions arrive by the end of September earlier publication should be possible. The 1998 issue will feature a full copy of the membership address list which we have decided to publish every three years. Photographs make a big difference to the *Bulletin* and members were asked to send for possible inclusion any taken at meetings during the year.

World-Wide Web Pages – No report was received from the Editor, A.C. Pigott.

The President thanked the Editors for their reports.

ITEM 8 – REPORT OF THE CONSERVATION OFFICER: Rob Cooke reports that with the publication of the second tranche of the Biodiversity Action Plans there are now five ferns identified as being in need of special conservation: *Trichomanes speciosum, Woodsia ilvensis, Athyrium distentifolium* var. *flexile, Pilularia globulifera* and *Lycopodiella inundata*. Projects identified range from surveys and habitat management studies to genetic work and will involve a wide range of organisations and individuals, including several people in our Society. The action plans for *Woodsia*, pillwort and marsh clubmoss were only published a couple of months ago, so much of the detail has yet to be sorted out.

The other news to report is the continuing work on the development of the National Biodiversity Network, which will allow the pulling together of survey and monitoring data on rare habitats and species, allowing quick assessments of their status. So far the work is preliminary, but as development continues apace, it is likely that the BPS will be invited, either as an organisation or directly through its members, to contribute to the monitoring of some of the rarer species. This may range from the 'adoption' of a species at a site by someone who then regularly reports on how well it is doing, to the participation in targeted surveys for specific species in specific habitats.

I will keep the Society informed and involved in discussions as necessary.

ITEM 9 – ELECTION OF OFFICERS AND COMMITTEE:
Election of Vice-President: It was proposed by the President, seconded by T.G. Walker and approved by the meeting that Matt Busby be elected a Vice-President.

Award of the Stansfield Medal: At this point, the President announced that the Officers and Committee felt that due to the outstanding contribution Matt Busby had made to the Society during his 26 years of membership, it had been decided that he should receive the Society's highest award – The Stansfield Medal.

In reply, Mr Busby expressed his deep sense of honour at being elected a Vice-President of the Society and that he was greatly aware of the great distinction accorded him by the award of the Stansfield Medal. He thanked the Officers and Committee for the award and expressed a hope that he could continue to be of service to the Society in future years.

Election of Officers: The President expressed his regret at having to announce that after some twenty years in office Matt Busby was now retiring as Honorary Secretary. The President thanked him on behalf of the Committee and members for all his efforts. It

was proposed by A.C. Jermy, seconded by E.J. Baker and approved by the meeting that Jennifer Ide be elected as Honorary General Secretary.

Both A. Leonard and P.J. Acock had expressed their willingness to stand for a further year as Honorary Treasurer and Meetings Secretary respectively. This was approved by the meeting.

Election of Editors: Our Editors had all agreed to stand for re-election: J.M. Camus and J.A. Crabbe as Editors of the *Fern Gazette*, Prof. B.A. Thomas as Editor of the *Pteridologist*, A.M. Paul as Editor of the *Bulletin* and A.C. Pigott as Editor of the WWW Site.

It was proposed by M.S. Porter, seconded by N.J. Hards and approved by the meeting that they be re-elected *en bloc*.

Election of Committee: The two longest serving members of the Committee due to retire were H.S. McHaffie and A.C. Jermy. J.M. Ide was leaving the Committee to take up the appointment of Secretary. The President thanked them for their service. Two nominees to join the Committee were Barry Wright, proposed by M.S. Porter and seconded by R.N. Timm, and Lawrence Kirkham, proposed by M.H. Rickard and seconded by A.R. Busby. The remaining members of the Committee standing for re-election were: E.J. Baker, R.J. Murphy, M.E. Nimmo-Smith, M.S. Porter, R.N. Timm and A.C. Wardlaw. Two vacancies remain unfilled.

It was proposed by R.W. Sykes, seconded by P.H. Ripley and approved by the meeting that they be elected *en bloc*.

ITEM 10 – ELECTION OF HONORARY AUDITORS: Graham Hoare had expressed his desire to retire as an Auditor. The President thanked Mr Hoare for his service over the last seven years. It was proposed by N.J. Hards, seconded by E.J. Baker and approved by the meeting that P.H. Ripley and R.G. Ackers be elected as Auditors.

ITEM 11 – ANY OTHER BUSINESS:

a. Mapping scheme: This item was not discussed as none of the mapping sub-committee were present.

b. Change of date for Annual General Meetings: The President announced that the Committee had decided that the AGM would be moved to March, starting with the 1999 AGM which will be held on 20 March 1999.

R.W. Sykes questioned the need for yet another change to this event.

In 1991 the AGM was moved from March to September so that we could celebrate our Centenary with a meeting on the actual anniversary of the inaugural meeting of our Society. However, since 1991 the year being reported on at the AGM has been the calendar year after that for which the accounts are being presented. To avoid this confusing situation and to keep members better informed, the move to March was agreed.

As there was no further business the President thanked members for attending.
The meeting closed at *c*.3.15 p.m.

A.R. Busby
Hon. Gen. Sec.

FINANCIAL STATEMENT AS AT 31 DECEMBER 1997

ORDINARY ACCOUNT

(1996)	INCOME:	1997
£11,673.15	Subscriptions	£11,825.40
476.54	Interest	842.74
174.26	Merchandise	263.00
–	Plant Sale	99.70
3.00	Sundries	–
–	GEP	3,002.99
£12,326.95	**TOTAL INCOME**	£16,033.83
	EXPENDITURE:	
2,775.00	Pteridologist	2,878.34
1,196.00	Gazette	2,129.17
1,838.00	Bulletin	1,692.00
428.70	Printing & Stationery	709.38
1,659.08	Administration & Postage	478.24
7.15	Subscriptions to Societies	35.15
–	Plant & Spore Exchanges	84.18
465.70	Meetings	505.45
–	Merchandise	565.91
479.57	Mapping Project	60.00
–	GEP	3,002.99
–	Donations	250.00
£8,849.20	**TOTAL EXPENDITURE**	£12,390.81
3,477.75	BALANCE for 1997	3,643.02
6,330.65	Brought forward from 1996	9,808.40
£9,808.40	**Carried forward at 31.12.1997**	£13,451.42

CENTENARY FUND

5,440.06	Brought forward from 1996	5,853.50
245.09	Interest	309.33
–	Grants	(450.00)
56.00	World of Ferns	24.00
112.35	Intercept	–
£5,853.50	Carried forward at 31.12.1997	£5,736.83

GREENFIELD FUND

1,444.35	Brought forward from 1996	1,514.42
65.07	Interest	80.03
(50.00)	Grant	–
55.00	Donations	28.00
£1,514.42	Carried forward at 31.12.1997	£1,622.45

PUBLICATIONS ACCOUNT

2,507.25	Brought Forward from 1996	3,197.25
295.50	Offprints	106.00
82.00	Special Publication No. 2	93.80
245.00	Special Publication No. 3	280.80
21.00	Special Publication No. 4	19.35
46.50	Special Publication No. 5	15.40
£3,197.25	Carried forward at 31.12.1997	£3,712.60

Notes to the Accounts

1. The Society had the following stocks of books at 31.12.1997 (1996 stocks in brackets): *Fern Names and their Meanings* 209 (240), *Cultivation and Propagation of British Ferns* 143 (223), *History of British Pteridology* 849 (854), *BPS Extracts and Papers* 445 (453).

2. Small floats were held by three officers at 31.12.1997; these are not included in the accounts.

3. The accounts reflect the subscriptions actually received in the year. Approximately £2,612 is subscriptions received in advance for 1998 but some subscriptions remain outstanding for 1997.

4. BPS Booksales had assets of £4,164.76 (£4,056.48) at 31.12.1997.

5. The Centenary Fund had 182 (185) copies of *A World of Ferns* at 31.12.1997.

6. The Society also possesses the following assets with less tangible value:
The Membership Secretary has a computer that cost £1,000 in 1992 and a printer that cost £200 in 1991.
The Spore Exchange has a computer and software that cost £1,000 in 1996 and a fridge that cost £200 in 1991.
Back issues of the *Bulletin, Fern Gazette* and *Pteridologist* valued at approximately £3,000.
Merchandise valued at approximately £1,500.

7. The Society made three grants in 1997:
Sussex Wildlife Trust £250 (General fund) – see report in 1997 *Bulletin* (5)2: 90.
Vlastimil Mikolas £250 (Centenary Fund) – see 1997 *Bulletin* (5)2: 57.
Kate Pryor £200 (Centenary fund) – see below.

MAIDENHAIR FERN – A GRANT FROM THE CENTENARY FUND

I would like to thank the trustees of the BPS Centenary Fund for the contribution I received in September 1997 towards fieldwork costs for my PhD. For my PhD project I am studying the population biology and ecology of *Adiantum capillus-veneris* in the British Isles under the supervision of Dr H.J. Rogers, Dr J.E. Young (Cardiff University) and Dr F.J. Rumsey (The Natural History Museum). Using three different techniques – anchored microsatellite PCR, a specifically designed microsatellite marker set and allozymes – I am studying genetic variation within and between the widely separated populations. We hope to reveal detailed information on population biology including the relative size of the gene pool in the British Isles, the amount of gene flow within and between populations, the breeding systems in operation and the relative frequency of sexual reproduction via the gametophyte phase versus vegetative spread. My project also includes both field and laboratory based studies on the specific ecological requirements/tolerances of this species in the UK with studies focusing on the gametophytic lifestage and conditions required for sexual reproduction.

The contribution from the BPS Centenary Fund was an enormous help in assisting to fund my field visits to all the Cornwall sites in September 1997. These visits were very successful largely thanks to the very comprehensive locality details supplied by Rose Murphy who I would also like to take this opportunity to thank.

Kate Pryor

SPECIAL INTEREST GROUPS

FOREIGN HARDY FERN GROUP — A.R. Busby

Regrettably, I have not been able to produce a newsletter so far this year but hope to remedy that shortly. The Group now has about 20 members and membership is open to anyone who has a particular interest in foreign hardy ferns. Enquiries to: A.R. Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD.

TREE-FERN GROUP — Alastair C. Wardlaw

The Tree-fern Group, which was started by Martin Rickard in 1995, now has 27 members, mainly in the UK but with one in each of Australia, France, Germany, Ireland and the United States. Four Newsletters have been issued and the fifth will appear as soon as enough copy has been received. The Group, because of its widely scattered distribution, has little opportunity for face-to-face meetings, which means that exchange of information has to be by the printed word. The editor would therefore like to encourage all Group members as a regular routine to send in comments, notes, short articles, and especially photos of themselves with tree-ferns, for the Newsletter, so that observations on, and experiences with, these plants can be shared by all in the Group. In this way, over a period of time, we can build up a resource of information on tree-ferns and the conditions for their cultivation away from their native lands. Especially welcome would be observations on the over-wintering of tree-ferns of various species in British gardens, particularly if data on local temperatures and micro-climates can also be provided. Contributions can be sent to Alastair C. Wardlaw, 92 Drymen Road, Bearsden, Glasgow G61 2SY, UK, or by e-mail to a.wardlaw@bio.gla.ac.uk. The next Tree-Fern Newsletter will contain records of weekly temperature readings made in Glasgow last winter with thermocouple probes fastened directly in the apical clefts of several species of tree-fern that had been planted outside and covered with bubblewrap.

FILMY FERN GROUP — S.J. Munyard

Following a visit to Ausfern at Writtle near Chelmsford, we were fortunate enough to obtain pieces of *Dicksonia antarctica* trunk to use as a growing medium for many species of filmy fern. Also, growing material of *Trichomanes venosum* and *T. caudata* were carefully removed from other trunks and the former will be offered to members for cultivation. It is hoped next year to arrange a meeting at a good filmy fern site but this is likely to be difficult as members live great distances apart.
Anyone else interested in joining this group should contact Steve Munyard at 234 Harold Road, Hastings, East Sussex TN35 5NG.

THE AMERICAN FERN SOCIETY

The AFS invites all readers of this *Bulletin* to join the American Fern Society. Regular members receive the *Fiddlehead Forum* five times a year. This newsletter is published for the benefit of those who are interested in growing ferns, hunting for them, and expanding their knowledge of ferns. Journal members also receive the scientific quarterly *American Fern Journal*. Membership costs $11 and $22 per annum respectively for members residing outside USA, Canada or Mexico, including postage for airmail-assisted delivery. For particulars please write to Dr David B. Lellinger, 326 West St. NW, Vienna, VA 22180-4151, USA. Prospective members residing in Great Britain should write to Mr M.S. Porter, 5 West Avenue, Wigton, Cumbria CA7 9LG.

AFS SUBSCRIPTION PAYMENTS: Our societies have an exchange arrangement whereby members of the BPS can pay their AFS subscription through the BPS Membership Secretary and *vice versa*. Contact your Membership Secretary for details.

MEETINGS PROGRAMME 1999

Meetings Secretary: P.J. Acock
Meetings Sub-Committee: R.G. Ackers, N.J. Hards, J.M. Ide, A. Leonard, P.H. Ripley

Sat 20 March
Spring Indoor Meeting & AGM – Reading
Location: Botany Dept (Plant Science Labs), Reading Univ.
Leader: Graham Ackers

Sat 29 May
Day meeting – RBG Kew
Location: Royal Botanic Gardens, Kew, Surrey
Leader: Jennifer Ide

Fri 18 - Sun 20 June
Long Weekend Field Meeting – Wells, Somerset
Centre: Priddy, near Wells
Leader: Nick Hards

Sat 3 July
Day Visit – Saville Gardens, Windsor
Location: Saville Gardens, Windsor Great Park
Leader: Graham Ackers

Sat 17 July
Day Indoor Meeting & Fern Show – Coventry
Location: Warwick University, Dept. of Science Education, Canley, Coventry
Leader: Matt Busby Time: 11.00

Sat 7 - Wed 11 August
Long Weekend Field Meeting – Isle of Man
Centre: Port Erin, Isle of Man
Leader: Pat Acock

Thurs 19 - Sat 21 August
Southport Flower Show: BPS Stand
Further Info.: Matt Busby

Sat 18 - Sun 19 September
Weekend Field Meeting – Wensleydale, North Yorkshire
Centre: Hawes, Wensleydale, N. Yorkshire
Leader: Barry Wright

Sat 23 October
Autumn Indoor Meeting – NHM, London
Location: Natural History Museum, London
Leader: Graham Ackers

Sat 15 January 2000
Day Indoor Meeting – NHM, London
Location: Natural History Museum, London
Leader: Graham Ackers

February 2000
Fortnight Field Excursion – New Zealand
Leaders: Jennifer Ide, Patrick Brownsey & Barbara Parris

For further details of these and other meetings of interest to members, including information on accommodation, please see the separate Meetings Programme sheet. This can be sent to overseas members on request.

REGIONAL MEETINGS

For details of additional meetings in the following areas, please contact the regional organisers, enclosing a stamped addressed envelope.

Leeds & District B. Wright, 130 Prince Rupert Drive, Tockwith, York YO5 8PU

South-East England P.H. Ripley, North Lodge, Dene Park Gardens, Shipbourne Road, Tonbridge, Kent TN11 9NS

East Anglia B.R. Stevenson, Willow Cottage, Cowlinge, Newmarket, Suffolk CB8 9QB

North-West England Mrs M. Garstang, Overbeck, Pennybridge, Ulverston, Cumbria LA12 7RQ

Cornwall Miss R.J. Murphy, Shang-ri-la, Reskadinnick, Camborne, Cornwall TR14 0BH

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